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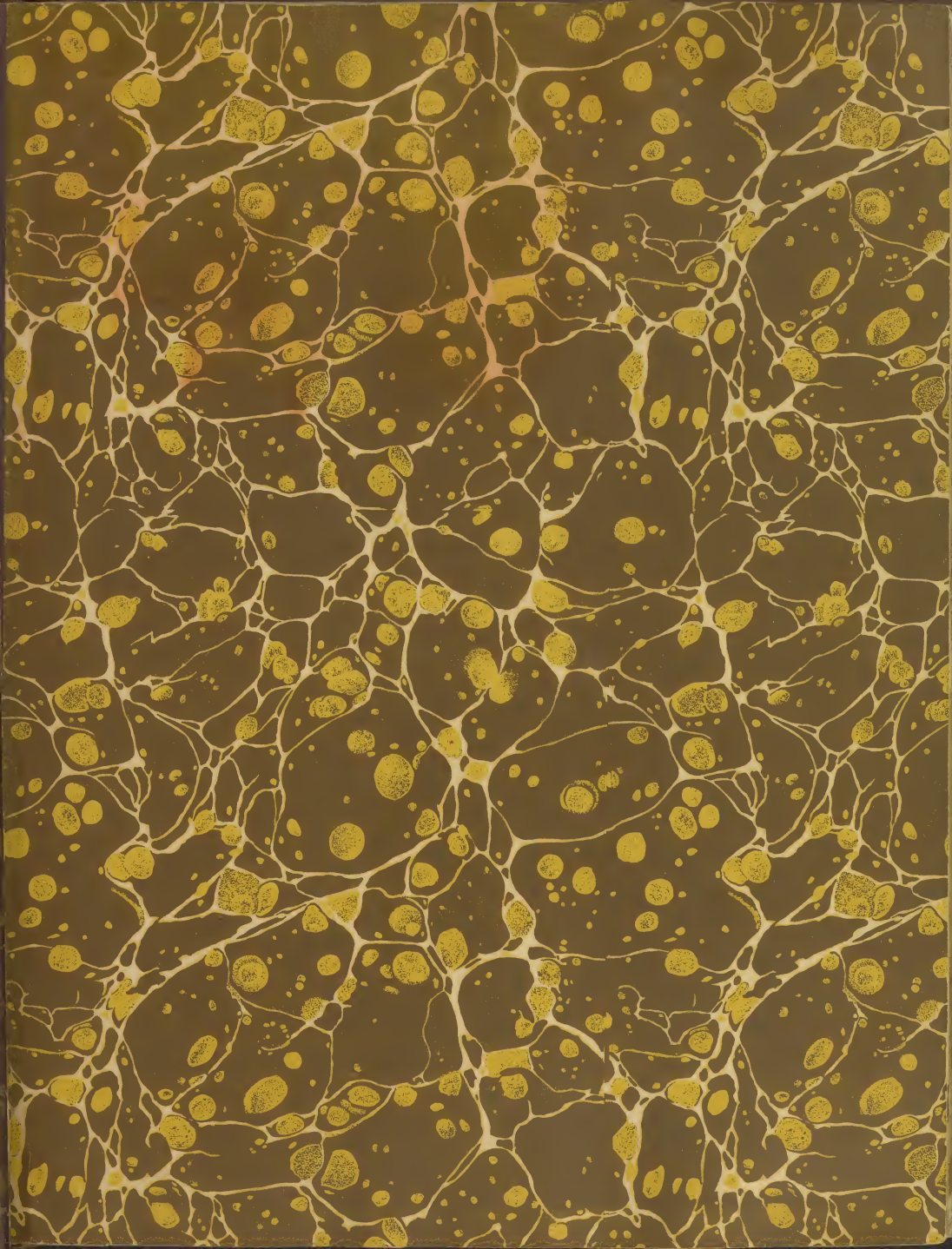


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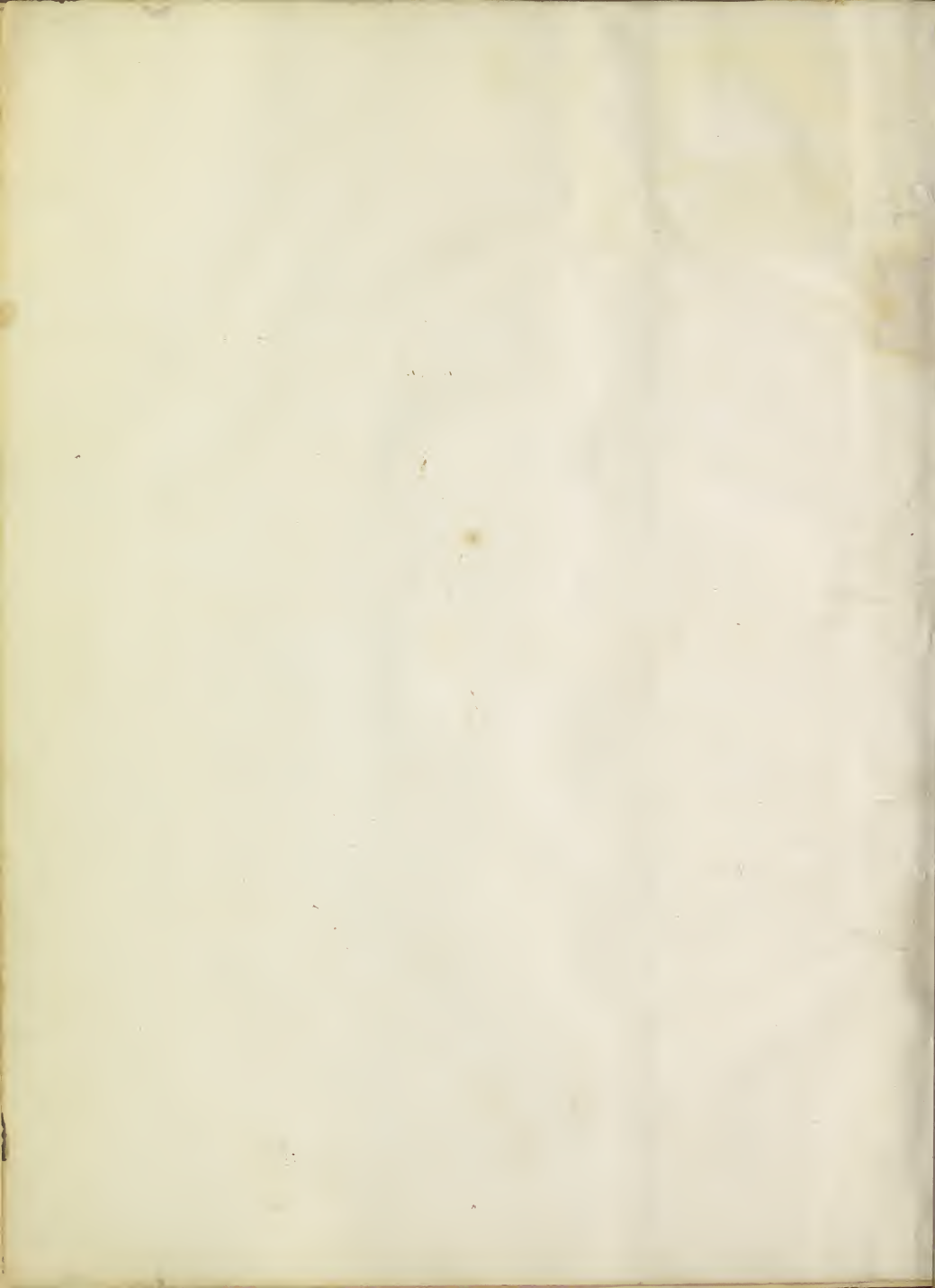
Jawmud Glover.  
Deft Ag  
Washington Nov

- Seluzawa* *speciosa*  
*Calodasys* *Edmundsii* *Boz*  
 " *leptotus*  
 " *horrisii*  
 " *cineoporus*  
*Stenocampa* *leptotus*  
*Helicocampa* *umbata*.  
 " *truncatella*  
 " *guthriei*  
 " *hyalocides*  
 " *cineia*  
*Prionura* *maxima*  
*Perura* *confusa*.  
 " *cineia*  
 " *scitriptus*  
*Schizophis* *irrogata*  
*Platysamia* *argyale* *Cal*  
 " *californica*  
*Uranus* *aureata* *Uhlen*  
 " *argyria*  
*Pseudohars* *Exantura*.  
 " *fica*  
*Hypochinia* *helleri*  
*Alusola* *virginensis*  
*Castropracha* *ferroginea*  
*Solyfe* *sumula*  
*Asocampa* *californica*  
*Xyletus* ~~*californica*~~  
 " *propuli*  
 " *fragilis*  
 " *quercifida* & *macmurtrei*  
*Perura* *Pyria*  
 " *canadensis*  
*Itinopsis* *argenteomaculata*  
 " *purpurascens*  
*Hypatus* *hyperbolicus*  
 " *latrator* *ensis*

continues page 121. *Neclugia*.

List of desiderata

- Diurnal* *Lepidop.* p. 40. examined 20 Ap 1870  
*Spheingidae* *Aggeridae* p. 41 " " "  
*Banlyculae* *Q* p. 60. & 82 " " "  
*Neclugia* p. 121 " " "  
*Helt.* *Geom* *Ennom* *Amphi* p. 122 " " "  
*Vidua* *Savant.* *Eubol.* *h* *Strouda* " " "  
*Notoncididae* p. 133 " " "  
*Opuncu*  
*Ethecoll* & *Lini* *Allect* } p. 144 " " "



fixes to splat on  
clear  
orps tail  
of the cornucopia

*Stenura* (Haud.) *promae* Haud. 194. 11 Pack No. 203.  
*Heterocampa* " Mor Syn 241.

Hab Fla (Haud.) Pack.

holes hollow  
asus left.

*Calodasys* (Pack) *unicornis* Pack. GPR 12 Pack p. 2364 Pack guide 292  
*Phalacra* " SGR, pt 86.

var ♂ *Edema semirufescens* Walk. GPR Tr. 2. 26

*Edema humilis* Walk oo. " do do do Lar pt 4  
fig 10 Logwood Ma July.

*Edema unicornis* Mor Syn 241

*Notodonta* " Mor 22. Har 294 Fitch & Hy Slo Soc 20ns pt 57  
com. ins. 1. 251. 216. 1856 p. 363 } fig 4 p. 100

Prominent or Unicorn Moth (Sta) Unicorn prominent (Fitch)

Lar eat a notch in the side of a leaf & placing itself in this notch  
resembles the edge of the leaf, it afterwards eats the whole leaf. May (Ga) July (Ma)

Pupa formed in parchment like cocoons often covered with  
pieces of the leaf, the caterpillars remain a long time in their cocoons before changing to pupae.  
Ins probably 2 broods yearly in the southern states first brood July (Ga) Pack

Food plants Apple Red or black berry'd Alder Logwood

Hab Mass. Maine (Pack) Ma. (B.) Can. (Saunders)  
Plum Winterberry

specific name derived from the horn on the back of the caterpillar

Forewings light brown with patches of greenish white  
many dark brown lines, hind margin white, near  
inner angle a small white & 2 black dashes. 125% 50





*Schizura* (*Linnaeus*) *gracilis* *Hastley*. *Gr. 11*

*Schizura confusoides*? *Mar. 0. GHR 0.*  
No 44 of Harris cabinet in Coll. of Brit Soc Nat Hist Ins pp. 105 14. Mr. Sanders

apical

*Calodasys apicalis* *GHR. GHR 12. GHR PESP. 6 p. 15. pl 2, fig 2. Pack 0*

Ins pl 78  
fig 15 & fig GHR. fig

Hab East St (Gale)

differs from *C. unicornis* by the apices of the anterior wings being more produced  
the costal nervines more curved & by the general coloration.

*Calodasys leptinoides* *GHR. GHR 12. GHR PESP. 3 p 223. } Ins to AES 1 p 177 fig 4*  
*Heterocampa* " *Grote* *q. Pl 4 fig 2. Pack 0* *fig 33.*

Ins pl 80  
fig 7 & 8 GHR. fig.

Hab Rhode Is. N. Y. Pa. Miss S.

Ins pl 80  
fig 10 q. " "

*Calodasys Edmondsii* *Pack. GHR 12. Pack PESP. 3. 344*  
*Edmondsii calodasys*

Hab Mass (Pack)

2 spotted like *Erpys*

*Calodasys biguttatus* *GHR 12. Pack PESP. 3. 365. } Am. Nat. IV. 229.*  
*Heterocampa ducens* *Walk. GHR to AES 2. 85. } fig 2.*  
*Heterocampa compta* *Walk. " " } feeds on*  
*Heterocampa cortica* *Walk. " " } Spina a. aceris*  
*Calodasys biguttata* *Bethune. Can. Ent. 1. 44. } for S. & unpublished*  
*Calodasys biguttata* *July Illus. Mass. } argus*

Hab Mass. (Pack) Can. (Bethune Can. Ent. 1. 44)

*Calodasys Harrisii* *Pack. GHR 12. Pack PESP. 3. 366*  
*Harrisii Calodasys*

Hab Mass. N. Y. (Pack)

ash forest

*Calodasys cinereoprens.* *Pack. GHR 12. Pack PESP. 3. 366*  
*Heterocampa ustipennis* *Walk. GHR to AES 2. 85*

June 16. Mass.

Hab Mass. (Pack)



? Larva  
 mod color  
*Tanassia* (Walk.) *leucicoma* Walk. GFR 12. & GFR Tr A ES 2.73 Bethany Conn. Ent 1/43  
*Xylorhiza nungai* (Pack) PESP 3. 368  
*Edonia*? *transversata* Walk.  
*Exocheta lignivora* Walk. GFR Tr A ES 2.486 Lar. 13  
 Fig 28. authority of Mr Riley  
 Walnut Sep. Md. 18.  
 a species of *paratorgus* according to GFR.  
 G. found on Walnut.  
 Hab. Man. Wick Rhode Is. (Pack) Can. (Bethany)

Espos. dissimular  
 caput.  
 Astarte myth name  
*Heterocampa* <sup>(*castane*)</sup> *castane* (Doubled) GFR 12  
*Heterocampa varia* Walk. test S V A pt 116. (GFR.) Pack PESP 3. 368. Mor Syn 240.  
 " " " GFR. Tr A ES 2 p. 73.  
 Lar fed on Oak (Ill) Walk  
 Hab NY (Pack) Ins pt 68  
 Fig 24 Ill coll of Mr Walsh

oblique  
*Heterocampa obliqua* (Pack) GFR 12 Pack PESP 3. 368 GFR Tr A ES 1.475 pt 1  
 Larvae figured found feeding on Oak (Ma) Aug 9 sep.  
 Lar pt 13 } Oak Sep Ma { Ins pt 57  
 Fig 27. } changed Sep into { Fig 7. Ma  
 pupa in spring  
 Hab W. to Pa.  
 Ma (G) Lar pt 13 } Oak last Aug Ma {  
 Fig 26. } changed Sep into {  
 in spring into  
 Food Plant Oak.

pulverosa.  
 body  
*Heterocampa pulverosa* GFR 12. GFR Tr A ES 1 p 185. pt 4/fig 32 Q Pack 0.  
 S unknown. S V A pt 120. Lar pt 9.  
 Fig 19. Oak. Md. July  
 The Larva figured was taken on Oak July Md Ins pt 64  
 I am almost certain that the insect is 6/28 Fig 28 Ma.  
 Hab Pa. (Grote) Ma (G) although there is a ? after it  
 in my note book. Food plant Oak!

of one color  
*Heterocampa unicolor* - GFR 12.  
*Lochmaeus unicolor* Pack PESP 3. 373.  
 Larva fed on Sycamore Ill by Mr Walsh. Ins pt 67  
 Fig 22. coll of Mr Walsh  
 Illin  
 Hab Illin (Walk) Rhode Island Man. (Pack) Food plant Sycamore, Walk.

*Heterocampa marthesia* GFR 12.  
*Phalaena* " Cram (264 13)  
*Lochmaeus tessela* Pack. PESP 3. 370  
*Heterocampa tessela* GFR. Tr Am. Ent Soc 1. 182. pt 4 fig 29 S  
*Cerura turbida* Walk GFR Tr A ES 2. 85  
 see S V A pt 119. Ins pt 46  
 Fig 4 coll of M  
 Wiedemeyer 184.  
 Hab Md St. (Pack) 114. (Weid)

*Heterocampa* *Loul subretata* Harvey 104/6

2 waves on mantle  
with 2 wavy lines

*Heterocampa* <sup>N</sup>*biindata* Walk <sup>GHR 12.</sup> Mor Syn. 240.  
*Lochmaeus* *olivata* Pack. PESP 3. 370 GHR 7 & ES 2. 73  
*Heterocampa* *semiplaga* Walk.  
*Stenopus* *viridescens* Walk. JHR 7 & ES 2. 85 Ins pl 59  
fig 8 Ma.  
SEA fig pl 118

Ins pl 68  
21. 23. coll of Mr Walsh Kline

Hab Mass Rhode Is? (Pack.) Kline (Walsh) Md FL

brown

*Heterocampa* *brunnea* GHR. GHR. 12. GHR In Am E Soc. 1. p 180 pl 4 fig 289 Pack 11.  
O. untenown.  
Ins pl 58  
fig 17 Md  
SEA 4 fig pl 121.  
Ins pl 86  
fig 397m GHR fig.  
Hab Fla (Gr)

under a shade or  
cloud

*Heterocampa* *umbrata* (Walk) GHR. 12.

*Heterocampa* *trouviotii* (Pack) GHR. 12. Pack PESP 3. 370.  
*trouviotii* *Heterocampa*  
Ins taken last July

Hab Mass.

drop or spot striped

*Heterocampa* *guttrivitta* (GHR) GHR. 12.  
*Acrona* *guttrivitta* Walk.  
(?) Ever *Heterocampa* *biindata* Pack. PESP 3. 370 (GHR list 12.)  
*Erymonia* *mucrona* HSch.  
*Erymonia* *undeterminata* Walk.

(?) Hab. Mass. Rhode Is. (Pack)

resembling *thyatris*

*Heterocampa* *thyatroides* (Walk) GHR. 12.

ashy

*Heterocampa* *cincta* GHR. 12.  
*Lochmaeus* " Pack. PESP 3. 372.  
*Misogada* *sobria* Walk.

Hab Maine (Pack) taken at light

marine

*Heterocampa* *marina* Pack. GHR 12.  
*Lochmaeus* " Pack. PESP 3. 373

Hab Rhode Is. Pack



*Platy cerura furcilla* Tuck

L feeds on *Picea* attains maturity about  
mid Sept. pupates in a slight cocoon  
among leaves on the surface of the earth

Lincoln. 23 Aug. 1891  
Mys Cal. No. 61

Ins pt 59  
fig 2 Ma

*Heterocompa elongata* GVR. GVR 11 GVR Tr Am Ent Soc. 1. p 184 pl 4 fig 30.

Insp. pl 86  
fig 1. fm G.R. fig ♀

2 *Lochmaeus* <sup>(manteo)</sup> *manteo* (Walk.) GH. 12  
*Lochmaeus manteo* (Doubled.) Mon Sep 24<sup>th</sup>  
*Heterocampa subalbicans* Gr. 16 E.S. 2 p. 336, 43, 539. pl 8 fig 2.  
*Tadana emeraucens* Walk. GH Tr. A.S. 2. 73.

? *Loehmaeus mantos* (J. Pack) GSP. 3. 370  
*Heterocampa mantos* Walk. GSP. 7. AEST 2 p. 73.  
 & *Bethune* can ent 1. 44

Ans.  $\frac{pe}{79}$   
fig 11 fm GVK fig.

Hub Pa. (GFR 336) Can (GFR 539) Trenton falls, Geo. Pack.

Can (Bothine Can Ent 1/4/4)

*Lrymonia? confusa* Walk. Can Ent 1. 88.

Hot Can.

πλατυς broad  
κερας horn ουρα tail.  
furcula a little fork

*Platycerum* (Pack) *furcilla* (Pack) Gr. 12. Pack PEST 3, 373.

Lar from Original colored drawing kindly lent by ..  
 Mr. Lester Albany, who says it feeds on Pinus strobus. Lar  
 Ins from a drawing an stone kindly lent by  
 Mr Grote. N.Y.

Lar 99  
fig 14. fm original colored drawing  
by Mr. Lenthew Albany N.Y.  
Ans pc 81  
fig 2. drawing by Mr. Grate

Hab. Mass. (Pack) Can rare (Sander)

Good Plant Pine

*Pinus strobus* with Lutzner.

*Cerura* (<sup>Schrank</sup>) borealis (Har) GfK. 12. Har. 822, Mor Syn 236. | Lar 4-10 <sup>M66</sup> 12.13 Inf 7-9 <sup>M66</sup> 12.13  
*Palaena fuscata* [SVA (erro)] pl 72. | Lar 1-4 <sup>LH 20</sup> 12.13  
*Dicranura borealis* Bdv. (Dicranura Katten moth) <sup>H Newman 21</sup> | Lar 1-4 12.13 Pl 4-6 12.13  
Northern Cerura or fork tail moth. (Har) Kitten moth (SVA) | Lar 1-4 coll. of Mr 12.13 Ashurst.

Lar when disturbed throws out of its forked tail two soft orange colored threads or filaments probably for the purpose of driving off any parasitic chalcid flies.

Pupa formed in a case or cocoon made of chips of wood cemented together with a sort of gummy substance which issues from the mouth of the larva, this cocoon. It fastened on a branch or trunk

Locon lower side flat fitting to the object to which it is fastened upper side convex

Ins 24 Apr (Geo)

Food plants Poplar Willow Wild cherry

Hab. Mass. Rhode Is.<sup>1</sup> N.Y. (Pack) Geo (Sta) Md (TG) Can. (Saunders)

"*Cerura* Puss or Kitten Moth. of England. *Nesb.* 2.387

*Cerura.* } Grote authority

Inu pl  $\frac{48}{5}$  ma

*Centura cinerea* Walk. G. H. 12. Back 6 is not thin. *Heterocampa* P. 83.

*Clerura* *seitzi* *scripta* Walk 49 fr 12. Pack 0.

84

22888  
horn  
oarpa  
lark  
(herald)  
of the north

collected about 1860. Taken between 1860 and 1865.  
Found of low hills upward by taking the train from  
head of lower forks. Body green, with a brown line  
dark brown. Head with purple brown line. Neck, ear  
dark brown. 1891  
1. Body white, becoming greenish by 2. Head dark brown  
dark throat at base of eye. The throat and breast  
all white dotted with black. 1. 75.





"*Platypteryx* constitutes a most anomalous group which in the imago state seems to be one of the types or form of this fam (Geometridae) but its larvae (fig 100 no 18. Pl. Lacertula) are altogether distinct & resemble more nearly those of *Cerura* (Nest 2 p. 398.)  
 The *Triclistus* figure certainly does resemble *Cerura* somewhat but not nearly so much as the fig in Pack. taken from a sketch by Smith Abbott - the tail in westwood's fig being short & incurved. & each of the segments of the body rounded & surmounted by bristles.  
 This fig has been copied to show the differences in case the larvae are taken here

"*Platypteryx* Larva slender with 10 legs, naked, with several little prominences on the back & the tail pointed like *Cerura*, the pupa is enclosed in a cocoon among leaves." Pack guide 298 **13**

### *Platypteryginae*

(*Platypteryginae* synonymy & list. A.R. Grote To the Ent. Soc. 2/65.)

primary a sickle  
 arcuatus, arcus (error)

*Drapana* (Schrank) *arcuata* (Walken) GFR. 12. Gr. & A.S. p. 66. GFR. To 2.5. 2. 74

*Platypteryx* *furcula* ? Grotto list 12 (syn.)

*Platypteryx* *pubula*. Grote P.E.S.P. 1 p. 346. pt 3. fig 2. Gr. & A.S. Phil 1862 p. 59.

" (mentioned as syn.) Gr. & A.S. p. 66.

*Platypteryx* Hook tips. Newman 207 calypso-like figured by Newman resembles XIII. 7 of my fig.

Ins. pt 62  
 fig 13. Ma.

Hub Ma (89)

Ins. pt 67  
 fig 25. fm Grotto fig

note distinguishable from the following by the ground color & the disposition of the bands on the superior wings (Gr. P.E.S.P. 1. p. 346)

gemulus an angle  
 or corner

*Drapana* *gemulus* (Walken) GFR. 12. Gr. & A.S. p. 66. Pack P.E.S.P. 3. 374

*Platypteryx* *gemulus* Gr. P.E.S.P. 1. p. 346. pt 3 fig 3. Gr. & A.S. Phil 1862 p. 59.

Ins. Plate 67  
 fig 24. fm Gr. fig.

Hub N.Y. Man. (Pack)

*Drapanodes juniper aris* in Pack 1<sup>st</sup> Man. Feb. 23. fig? Am. Mus. V. 423  
*Juniper* span worm.

L. shagreened resembles a portion of the twig of *Juniper* on which it feeds. When  
 B. pea green. & resembles as *Papa* food Plant *Juniper*

L. thick & 1/2 long. less than a line in thickness body rather rough with a few tubercles  
 in size of horn resembles the scale left by the falling of the leaves of *Juniper*

Ins. pale fawn with a rusty tinge resembles *Motis* *D. agnosus* but is not at all huge  
 with purple on upper side of wing

primary a sickle

*Drapanodes* not in GFR list or Pack but placed here as they evidently  
 belong near *Drapana*.

~~*Drapanodes* *Shortcliffe*~~ See 24ru)

~~*Shortcliffe* *Drapanodes*~~

Hub Man.

Ins. pt. 93  
 fig 11. Coll of M.  
 Sanborn Man.

(89)

p 12 - 14

*Polypterus*  
*arcuatus*

*arcuatus*

62/3. In the

*Drepanodes asquelinea* D.S. Goto. *derid.* Can. Ent. 2. 119

Hab. N.Y. (Mass.) Goto. Can. Ent. 2. 119  
(Alabama)

size of age, full grown *Drepanodes puber* ♂ GHR list 0 GHR Ann Lye Nat Hist N.Y. vol 8 Apr. 1867  
page 20 pl. 15 fig 1.

Hab. N.Y. (Alabama. Goto. Can. Ent. 2/114)

Ins pl. 77  
fig 30. fm GHR fig

aqueous wet

*Drepanodes aqueosus*. ♀ GHR list 0 GHR Ann Lye Nat Hist N.Y. vol 8 Apr. 1867  
page 21. pl. 15 fig 3.

Ins pl. 77  
fig 32 fm GHR fig

various crooked ♀  
or  
various in spot. ?

*Drepanodes varus* ♀ GHR list 0. GHR Ann Lye Nat Hist N.Y. vol 8. Apr. 1867 page 21. pl. 15 fig 2.  
xx/16. Mosely

Hab. N.Y. (Alabama Goto. Can. Ent. 2/114)

Ins pl. 77  
fig 31. fm GHR fig  
93/11

shades broad.  
73 per wing.  
2 lines

*Edapteryx* *Grote* con *annulata*  
*Platypteryx* (*Laspiegres*) *lilineata* Gr. GHR 12. GHR Tr. A.E.S. 2 p 66.  
*Edapteryx* *lilineata* Pack P.E.S.P. 3. 376. Gr. P.E.S.P. 3. p 539 —. pl. 6 fig 9. 2

Ins pl. 80  
fig 14 fm Grote/fig

Hab. Can. (Saunders). Pa &c

Ins pl. 88  
fig 16 Coll of Mr Saunders. Can.

1/25 oak.  
? deriv  
or *Dryopteris* *loline* a habit  
called oak form.  
nowy

*Xyopteris* (Grote) *rosea* (Grote) GHR 12. Gr. P.E.S.P. 1. 345 pl. 3 fig 1.

*Drepana rosea*. Walk. *Gr. Mor Syn* 219.

*Cilex americana* H.S.

*Platypteryx* *formosa* Grote Pr Acad Nat Sc Phil 1862 p 60

var *Drepana marginata* Walk. Gr. P.E.S.P. 1. p 345 Pack. P.E.S.P. 3. 377. Mor Syn 219.  
+ GHR Tr. A.E.S. 2. 74

Ins pl. 49

Ins pl. 58

Ins pl. 97

(var) fig 13. Mal. May. 1/9 5 Ma.

fig 29. 1/6 coll of  
M. solid.  
Aug. 1/6.

Hab. Mass. (Pack.) Can. rare (Saunders)

D.C. Md. (S.G.) Nova Scotia Bathurst Can. Ent. 1. 148

irrorata  
sprinkled with dew.

*Xyopteris irrorata* (Pack) GHR 12. Pack P.E.S.P. 2. 377.

I 545 Mo

Hab. Nova Scotia Bathurst Can. Ent. 1. 148 Ins. taken at light Maine Aug.

*Xyopteris* ?

Lar. outside see pack guide p. 293

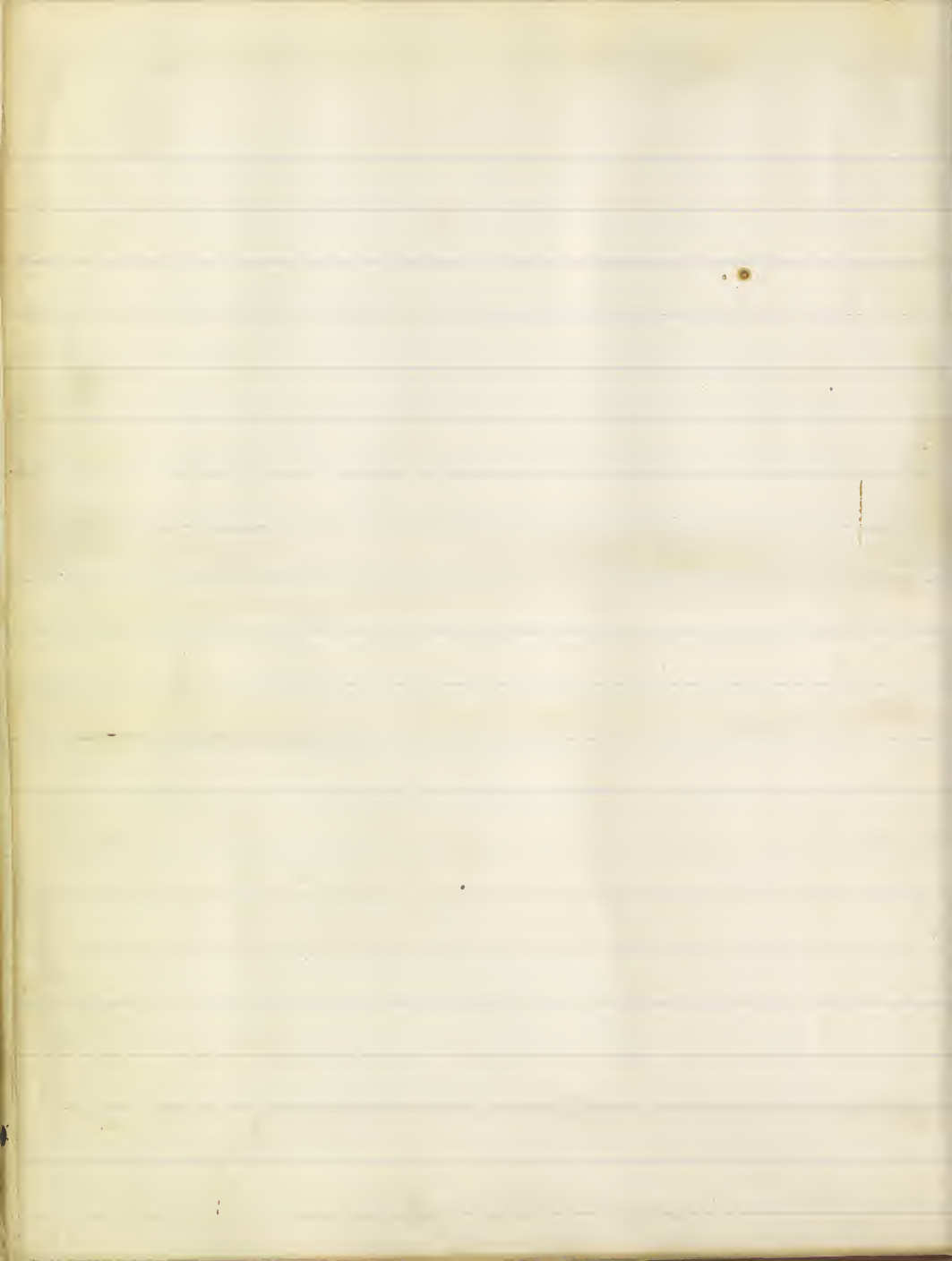
Lar. fig 100  
fig 14 fm Pack

*Dryopteris*.

Am. Nat. IV. 229. pl. 2. fig 3.

L.P. From Smith & Abbotts unpublished figures Pack

Larva feeds on *Vitis* *nudum*. (Withe Rod)



? new  
resembling a *Dryopteris*

*Calliophrys dryopteris* Grot. B. U.S. 2. 120.

Imago flies July. Aug.

Ms pl 74/17.

16

Hab. N.Y. Pa.

apparently allies to *Impatiens* *Green* & *Linnaea* of *Walb.*

*Eudalinea*

85

85



*Telia polyphemus* Riley 4<sup>th</sup> Rep. 127. M. Townes<sup>1</sup> states that the  
molt escapes from its cocoon by emitting a fluid, which is a dissolution  
for the gum which so firmly unites the fibres of the cocoon. This fluid  
is composed in a great part of Boric acid which is secreted during  
the last few days of the pupa stage when the fibres are around the  
head & legs of the moth being discharged the pupa contracts its body.  
Sometimes the head & legs of the pupa are found outside the cocoon, the  
fibres separate & coat around the head of the moth not a  
fibre having been broken but only separated

*A. Polyphemus*. Riley 4<sup>th</sup> Rep. 1872. p. 137. class

of our native moths *Polyphemus* is the most valuable  
& important its silk being easily reeled & of excellent quality.  
*Acropia conus* next in order its silk being reeled with  
difficulty while that of *promethes flumina* is of  
low value. has never yet been & probably cannot  
be reeled.



*Anthracaea* <sup>Hüb.</sup> *Sophia* Linw.

*Phalaena* (Allacae) *mylitta* Drury II. exalt. Dns.

*Anthracaea mylitta* Hüb.

Cat. Lep. East India house p 385. pl XIX. 1.

Drury II. p 8. pl 5. fig 1.

*Attacus mylitta* Pack guide 396  
*Salweenia mylitta* Westwood L. 2. 2. 1.  
ex Jussch

native names in India & Pegu, Kolsiurra., Konkari. Mooga, Munga & Jussch

*U. mylitta* <sup>Figures</sup> 187

silk perhaps superior to Bomby's silk  
cocoon when properly prepared the silk can  
tall can be wound off from one cocoon to  
the other. Hal Bouge Calcutta Saloon  
silk exports under the name of Indian  
Bombyx stuffs are made of it in India  
of fine & bags leather which are used for  
summer clothing or for covering furniture  
in 1855. M de Chavannes reared this  
species in the open air near Lausanne  
in Switzerland. This treatment succeeds  
without any degeneration for many years  
they however at last die out.

Food Oak, <sup>Figures</sup>

the cocoon. young larvae appear in May  
ad) formed. in Sp. hatches into moth  
only *Isabella* Ross Gilbert.  
It is a branch by a thick consolidated cord  
& *Jussch* forms a most durable awning  
by the *Borahmus* in India  
It is 4 inches in length and attains its  
formed in leaves glued together to form  
the *Christo*, remains dormant 9 months  
emerges at night  
domesticated but that the natives feed  
their excrement dropping on the ground  
transports them to trees near their  
in birds and bats

taphyllum, *Morus indica*

ca. *Rhusophora caseolaris*

ca. *Sectona grandis* (Teak)

alata glabra. and *Catappa*.

LC 3 p. 100  
ex cat. sep.  
ex. *mylitta*  
ex *mylitta*  
M. *mylitta*  
M. *mylitta*

<sup>F. Gallucci essay To Lond. Ent Soc vol V.</sup>

*Anthracaea gamma* mae. Guerin Menerville. Pely 4. & Rq 120.

name signifies "worm of the mountain" native  
of northern Japan feeds on Oak *Quercus serrata*  
introduced into Europe in 1861. I experimented upon it  
in America in 1868. eggs when hatching should be kept  
in a moist atmosphere caterpillars state lasts from  
30 to 30 days. Feeds on all oaks preferring however  
the white oak group. Dr. Wallace of California England  
states that I will feed also upon *Betula* *Asplenium* *Gemma*  
*Myrtus* *thorn* *Neapolitan* *metast* *Phytolacca* *glabra* &  
*Cornus*. the length of time between hatching & spinning  
during which the larvae remain in the open  
air passing through 4 periods of rest is reckoned  
at about 60 days more or less according to the  
temperature  
the chrysalis is destroyed by a parasite called in  
Japan *Uji* the caterpillar is subject to two  
diseases, one of which the caterpillar turns brown &  
Hübner I speckled the beautiful clear green *chrysalis*

dull yellow downy covers the body hangs by  
the prolegs a flaccid shapeless mass of pulpy fluid.  
which soon bursts through its tender swollen covering  
leaving nothing but a dry shrunken skin

ut. of Lep. in East India House. 200. Sp. pers. 3.

*area nupulensis* X *area* *Mussonia*

*area* *brasiliana*

*area* *brasiliana*

or full oak of India - not their proper food but they will eat

from 5000 to 7000 feet

the silk has failed hitherto

greatly a crop of a clear caterpillar flared

form of the Cocoon is developed before forming

same

CXIV. 5. Cat. East India, p. 385

CXIV. 6. " "

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

Young 2. p. 385. 5. 1. 1.

*Anthracaea adama* <sup>Hübner</sup>

*Salweenia*

Cat. East India house 398. p. XIX-2.

native names Mooga or Moonga of Assam.  
Although the mooga moth can be reared in houses it is fed and thrown  
out in the open air, and on the trees. It feeds on several plants or trees.  
amongst which is a species of *Michelia* *Tetrathra* *Diglossina*  
*Macrophylia* & *Laurus obtusifolia*.

L. CXIV. 5. Cat. East

ex  
pl. mylitta. p. 100/3.

p. 86  
as a word



cat prop name  
 17212  
 alternately wind  
 in the moon

*Actias* (Leach), *luna* (Leach), (Wetwood), *GHK 13*. *Trachea* *Fitch* *In NBSG Soc 1836 vol 16 p 452*  
*Attacus lunar*. *Leun Har. 282*. *Morris Syn 223*  
*Phalaena* " *S&D*. *pl 48*.  
*Tropaea luna* *Hüb.* *Pack P&EP 3. 379*. { *Walk. GHK* } *Lar pl 7*  
*Salurnia* " - *Morr. 21*. { *N&ES 2. 74* } *fig 3*. *Ma Walnut Sep.*

18

(ascribed to)  
 eggs (had in June)  
 Can but 2, 24 }

*Green Swallow tailed Emperor (S&H)* *In. pl 48*  
*Luna moth (Fitch)* *Eggs 16*. *July 210* from female *171. 24*.  
*Larva found feeding on Walnut (Md)* *Sept 2* broods in a season (Md)  
*In. appears March & July (Geo)*  
*Cocoon about 1 1/2 to 2 inches in length formed of a dirty whitish silk - the*  
*first broods in Md. making a very thin & light cocoon among the*  
*fallen leaves on the ground. & with nothing as a fibre*

*Food plants. Beech Hairy Hickory persimmon*  
*Sweet Gum. Walnut.*

*chiefly Butternut (Saunders Can)*  
*occasionally Walnut Hickory (Walk)*  
*Maple (Pack quite 298)*

*In closely resembles U. Selene & Choria Fitch*

*Hab. Maine Southward (Pack) Can (Saunders) Md Va S.C. Fla (S&H)*  
*Can. Rethum Can Ent 1. 146*

*TRAKES a least.*  
*again*  
*Splendid*

*Attacus (Linn) splendida (de Beauv)* *GHK 18*. *Pack P&EP 3. 381* *Morr Syn 228*  
*Bombyx* " " *de Beauv.* *Clemens Pr Acad Nat Sci Phil 1860. 160.*

*Insect marked "Texas" in Dr Morris Coll.*

*In pl 44*  
*fig 3 Texas coll of Dr Morris*

4-75. *Small caterpillar blackish green with a yellowish tinge on each side of body*  
 4-80. *Small caterpillar blackish green with a yellowish tinge on each side of body*  
 4-80. *Small caterpillar blackish green with a yellowish tinge on each side of body*  
 4-80. *Small caterpillar blackish green with a yellowish tinge on each side of body*

*result, experiments W V Andrews. Am Ent. 2. 39.*

*Antheraea Yama mai* *See American Agriculturist 1867 p 363.*  
*Attacus* " *Pack guide p 297*  
*wrongly* *Jussac moth* " *of Am Ag.* *Food Oak* *9. tinctoria 49. Cocoon*  
*silk capable of being reeled off (Am Ag)* *Apple (Dr Wallace Am Ent 2. 38)*  
*mentioned in connection with the Filix or silk disease Am Ag*  
*Hab. Japan* " *lar feeds on Oak & can be raised in the open air & its cultivation*  
*Pack, has gained much attention in Europe" Pack guide 297* (36)

*Antheraea Yama mai* *Japanese Silk worm* *W V Andrews N York in Am Ent 2/39*  
*In p. 1868 or 9. at first hatched and Apr 26. fed on buds rather than*  
*leaves of Quercus, cocoon - the leaves or buds should be sprinkled with water when*  
*the larva are found fed also on Q. tinctoria but rather preferred Q. coccinea, fed also on Q. Rubra*  
*on apple leaves, 250 yds silk reeled from one*  
*poor success in England. although an Austrian baron*  
*Q. coccinea Am Ent 2. 42.) J. CIX*  
*Am Ent 2. 42.) J. CIX*  
*3 for Quercus Menziesii*  
*Paris*

*Attacus mytilus = Antheraea populi in the wild state*  
*in India. Bahar Assam & Bengal feeds on Rhussum pynuba*  
*& very closely allied to pernyi. Silkworms perhaps is very closely*  
*allied to pernyi. Silkworms perhaps is very closely*  
*a geographical race. Rhy 4. 138. it bears the same*  
*relation to pernyi as a variety does to a species*

*U. Yama mai* *silk as bright as that of the*  
*mulberry silk worm but a little less fine*  
*Although it occupies the first rank of the*  
*cocoon resembles that of the mulberry species*  
*& eggs brought from Japan when the worm*  
*is reared separately with the mulberry silk*  
*worm in 1862.*  
*cocoon. of a more or less bright green*  
*on the exterior.*

*Agave*  
*of Agave in*  
*Rhy 4. 138*

*In Camille Personat. 1866. Monograph*  
*of Yama mai. Le ves a vie 8 vo*  
*Q. Laval o l Ecole de sericulture.*  
*Q. Tr Ent Soc. London. 3d Series vol V. p 15*  
*Toussaint 46.*  
*See "Entomologist" for Oct. 1867.*  
*& Signer 244*

86

*Attacus cyathia* Dausg. Cat Sp East India house. 407.

*Samia cyathia* Hubner

*Saturnia* " Westwood  
" *arandi* Hoyle.

Native names Arrandy or Arrundi silk worm  
& Eri or Enia of Assam

Hab India China

*Phalaena*?

*Attacus ricini* Boisid

*Saturnia lunula* Walk.

{ See also below. *A. ricini* which appears to  
be a phytophagous var. is a number of specimens  
kindly given by M. Guerin Menneville of Paris and  
labeled in two lots. *A. cyathia* & *A. ricini* could not  
be distinguished from each other except by the labels.  
Cat East India house. 407.

Hab India. Hindostan. Native name. Arrandy silk worm, from the word Arrandi  
which is the native name for the Castor oil plant  
J. CXV, 18. Specimen from M Guerin Menneville. Sent by him }  
*Ricinus pratensis christi* on which the L feeds.  
The three bodies of the silkworm eat the *Oryza* & the silk cannot be wound  
off but must be spun like cotton.

*Attacus* B. *ricini* The castor oil plant  
silkworm is a species very nearly akin to  
the *Attacus* worms perhaps only a variety  
and comes from India the silk is very  
similar in every respect to that of the *Cyathia*  
Dausg. 180.

Andrews, Alm. Nat. p. 331. Hatch & Ent. 1. 13. v. 38.  
 296 see also Alm Nat. vol 2, p. 311

amius

*Cynthia* <sup>North name</sup>

*Tamias (Hüb.) cynthia* Hub. <sup>Griff. 13.</sup> } Alm. Ag. vol 20 1861, p. 81  
*Attaeus cynthia* Lkurg. <sup>Griff. 13. v. 13. p. 381</sup> } " " " 24 1865, pp. 75, 288  
*arvindi* Lkurg. <sup>Griff. 13. v. 13. p. 381</sup> } " " " 1867, p. 363  
 or Fitch 2, p. 381 & <sup>Dec 16, p. 361</sup> } <sup>1868</sup> <sup>Riley 1, p. 112</sup>

Insect

native of China but imported for its silk produced quadruples into the U.S.  
 it was acclimated in Philadelphia in 1864 several having  
 been taken in that year from cocoons hanging in a wild state  
 on the *Althaus* trees in the streets the parent moths having  
 escaped from confinement & deposited their eggs on the first  
*Althaus* they came to. These caterpillars were very readily raised  
 in confinement in large boxes covered with gauze in  
 Washington D.C. but many of the chrysalides of the first  
 brood did not hatch and into moths the same season but  
 remained in the chrysalis state until the following spring  
 about 2 to 3 fourths of the chrysalides came out as moths in  
 from 10 to 14 days & deposited the eggs for a second brood the  
 next did not hatch until the following season, also Lkurg.  
 & Eschscholtz states that 45 to 60 percent of his cocoons hatched  
 the same season, Dr Morris of Baltimore in the contrary  
 any succeeded in raising 10 percent of moths the same season  
 know his cocoons.

Griff. 13. p. 21. <sup>1868</sup> <sup>Riley 1, p. 112</sup> <sup>Ma.</sup>  
 19. 1. from eggs imported from France. <sup>1868</sup> <sup>Riley 1, p. 112</sup>  
 Food plant *Althaus* Castor oil bean.

see <sup>1868</sup> <sup>Riley 1, p. 112</sup> <sup>Ma.</sup>  
*Althaus* & *Castor oil bean* <sup>1868</sup> <sup>Riley 1, p. 112</sup>  
 for its silk & acclimated

translation of a Japanese work  
 in 4 parts & 4th time well  
 1st. & 2nd. *Althaus* & *Castor oil bean*.  
 3rd. solely on leaves of *Castor oil bean*.

Off. in Rep. Ag. Morris 1860.  
 Thas. 1879 became into his  
 Morris Phil. Chicago &  
 Vol. 2. 246  
 extensive experiments, 1879  
 66. states that its cocoon  
 from some of our natives  
 3rd. 2. 246

1 plant. *Althaus*  
 4. *Althaus*. <sup>1868</sup> <sup>Riley 1, p. 112</sup>  
 11. 816

quer. 247.

by the north of China  
 1868 by *Althaus* & *Castor oil bean*  
 Morris by 1868  
 of *Althaus*

is a sort of *Althaus*  
 1868 by *Althaus* & *Castor oil bean*  
 made de *Castor oil bean* &

1868 by *Althaus* & *Castor oil bean*  
 1868 by *Althaus* & *Castor oil bean*  
 1868 by *Althaus* & *Castor oil bean*  
 1868 by *Althaus* & *Castor oil bean*

Longman No.

80

*Attacus cyathia* Drury. East Sep East India house. 407.

*Samia cyathia* Michx.

*Saturnia* " Westwood  
" *arnandi* Hodge.

Native names *Arundi* or *Arundi* Silk worm  
E *Eri* or *Esa* at Canton

Hab India

*Phalaena*?

*Attacus ricini*

*Saturnia lunus*

Hab India. H.

J. CXV, 1

The 8.

off 1

*Attacus* (B) *ri*

*saturnia* in

the Atlantic

and comes

similar in

*Attacus ricini*

*scutellaria*

feels upon *Lettuce* *chickony* *millar* & trace. Riley 4<sup>th</sup> Rep. 112

hybrids between *A. cyathia* & *ricinus* are quite numerous & two differences between the two connect. Egg of *cyathia* is covered with dark particles that of *ricini* is uniform. Full grown L of *Cyathia* is emerald green with dark freckles & black spots whereas that of *ricinus* is pale green & black the spots the cocoons, *cyathia* is larger more compact & of a paler gray. - *Cyathia* produces but two or at the most 3 broods annually, whilst *ricinus* produces 5 or 6 annually the moths of *cyathia* has separated white tufts on the abd. while *ricini* has them united in parallel bands but these characters cannot be relied on as they connect by transitions in *Cyathia* the variegation across the wing is broader than in *ricini* but *Cyathia* the crescent is yellow beneath the yellow being bordered with yellow around in *ricini* the white markings the yellow & the lunule is generally smaller. Riley. 4<sup>th</sup> Rep. 113.

*Attacus Samia guerinii*. Riley 4<sup>th</sup> Rep. 113.

most probably a var of one of the above & *cyathia* or *ricini*

*Attacus* ? CXII/2 what is it







Kados beautiful  
Bona prop name  
mytho name

*Callosamia* (Pack) *promethea* Pack. G.H. 13 Pack P.E.S.P. 3. 379 Pack guide 298  
*Attacus* ~~~~~ " ~~~~~ Lar. 11ar. 390. Prior Syn 224.  
*Saturnia* ~~~~~ " ~~~~~ Mor. 21 Melin?  
*Phalaena* ~~~~~ " ~~~~~ S.H. pl 46.  
*Samia* ~~~~~ " ~~~~~ Hild. Walk C.B.M. G.H. N.A.S. 2. 74  
*Hyalophora* ~~~~~ " ~~~~~ Duncan

21

Smaller dark brown Emperor. S.H.

*Promethea* Emperor. Lick N.Y.S. Aug. 1866 vol 16 p. 37.

Lar. pl. 2. Fig 18. Passafraus Oct. Ma.

Eggs deposited in clusters of 5 or 6 on twigs

Lar. pl. 7. Fig 4. Passafraus Sep. Ma.

Lar. hatched end July. attain full size in Sept.

Ins. pl. 49. Fig 11. 5. Ma. July.

Pupa formed May 2d brood in autumn (Geo)

Cocoon attached to a branch by coating over the footback of a leaf with silk the larva then forms its cocoon in the leaf itself no remains suspended to the branch all winter & may readily be found hanging to shrubs when the other leaves have fallen. in winter.

Ins. appears April & June (Geo)

ES minor of  
 Boston Man. Geo.  
 the first plant  
 of C. promethea  
 complete from  
 actual observation  
 I have not  
 in Can. int 2/100

{  
 Beech Barkery Birch  
 Cherry Maple Oak  
 (Sometimes Arborealae Pine)  
 Apple Peach plum  
 Syringa Silver bell  
 }

Food plants Alder Allspice Ash. aralia  
 Bay Button wood. Magnolia poplar Passafraus  
 Silver bell White cherry Tulip poplar  
 Ash Tulip poplar (Saunders Can)  
 Button bush. Cephalanthus (Pack. guide 298)  
 Can. (Saunders) Ind. (G.S.) Geo. S.H.  
 & Can. Botanic Can. Est 1.74

Hab. Man. southward (Pack)

11

Ash & Lilac, Lentree 1867

(86

*Promethea*

Lar. bluish pale green, head feet & tail yellow. 8 warts on each wing the 2 uppermost warts  
 on the top of 2nd wing almost cylindrical much larger size & dorsal red & a long yellow  
 wart on top of the 11th ring.  
 Cocoon spun in a leaf which is also fastened to the stem by silk  
 Ins. ♂ deep smoky, upper side, female light brownish red brown. wing with a many black  
 whitish line near the middle, dorsal clay colored. ♂ life of fore wings under one eye like  
 first ♀ middle of wing an angular reddish spot edged with black. 3.76 4.26  
 8 an eye like spot near the tip

wing bearing

*Callosamia angulifera* (Pack) <sup>W.H. 18.</sup> Pack P.E.S.P. 3. 380.

*Samia* ~~~~~ " ~~~~~ Walk. G.H. N.A.S. 2. 74

*Saturnia atys* + (noetic) Baid

*Saturnia angulifera* Mor 21.

*Attacus* ~~~~~ " ~~~~~ Mor Syn 227.

Ins. pl. 47. Fig 6. 7. Pa.

Lar. habits probably the same as C. *Promethea*

Cocoon said to vary in form from C. *Promethea*

Ins. resembles *Promethea* so much that it may possibly prove to be a local variety. Several of my light colored specimens of C. *Promethea* can scarcely be distinguished from the dark colored specimens of C. *angulifera*, except in the more defined markings & lighter color of *angulifera*.

Food prob same as C. *Promethea*

Cal N.Y. (Grote) Pack. Pa (S.G.)

86

*Hydysamia cecropia* Riley 4<sup>th</sup> Rep. 103  
*Cecropia* the city of Athens etc name.

The conclusion I would draw from my materials is, that *Columbia* cannot, at least until the contrary is proved by evidence, be considered as a variety or form of *Cecropia*. With regard to the second eventuality, a hybrid form, of course it is as yet merely a conjecture. Still, as I feel myself bound to frankly express my

opinion, I should say I believe it possible that *Columbia* may be a hybrid, perhaps of *Cecropia* and *Promethea*, and I will state what I believe to be in favor and disfavor of this conjecture.

Concerning another new species, *Gloveri*, I cannot help thinking it to be identical with *Columbia*, to judge from the figure and description, as I have not seen the specimens. It is fair to state that Mr. Strecker, on seeing our specimens of *Columbia*, declared them to be different from his *Gloveri*.



in. Sol. 2.55. wants to prove  
that the chrysalis makes a hole  
in the cocoon by rubbing its mouth  
against it so that the liquid  
secreted by the mouth has nothing  
all to do with its exit from the  
cocoon.

ing so not hold the same I do.  
 catch the next year when  
 42. Ref. 106 generally deposited in June

notes & queries from plates  
 & list of names wanted to finish plates  
 plates no 71. to be comp. see no 2

44 Water. Red Root (SVA)  
R Currant. (Saunders)  
Currant.  
Am Ent. 2, No 4, 1902.  
Geo (SVA) Ka Md. Va (LG)  
Ent. 1, 1904  
Pear,  
Haw. Red.  
Am Ent 2, 59  
Myrtle. fig 36  
Am Ent 2, 61.  
Hickory  
Blackberry  
Honey Locust

cinicus (of Horse hair snakes)  
giant Calyptor of the  
grasshoppers. " Malin Am Ent 1897

among its large web Insp. 93  
fig 9. coll. of Mr. Sanborn.  
" it in all its stages. (Pack)  
red plant *Rhodora canadensis*  
Eul 1. 44 84

is very  
ex. donated  
collectively.  
with California  
common in  
of C. cecropia

th. Hermann Strocher 87

*Attacus* (Linn) *Atlas* Linn Cat Lep. Indica house. p 405. L. p xx.  
*Saturnia elhottia* Helfer  
*Saturnia alia* Donovan. Ins of China p 76.

the L eat their own skins after eating them the cocoon is formed by  
 bending a large leaf & enclosing itself in a web under it. Oct. 12.  
 L. 2<sup>d</sup> June following.

✓ *Morua Mercan* *mentalis* a var in Surinam (?) of which she says  
 "the thread of which this cocoon is composed is so strong that it has been  
 supposed it would make good silk. (see note in Donovan L. XIV. vol. III.) J. CX.  
 { from comparison this is an <sup>very</sup> plant. *Phyllanthus Emblica* (Horsfield)  
 entirely different insect " will feed also on Plum and peach but larvae best  
 on Apple." Miss notes of Lady Isabella Rose Jellicoe in 1825.

*Attacus Edwardsi* (Wate) Cat. East India house 406

Species distinguished from *A. atlas* by its intensely dark color &c  
 see Cat Lep East Ind House. 406

*Attacus*. (*B. Faidherbia*) *bauhiniae* Guerin Menerville

Nat. Senegal.

CXI

1. Specimen given by  
 M Guerin Menerville Paris

✓ <sup>Very</sup> plant  
*Bauhinia*.

*Bombyx*. (*Faidherbia*) *bauhiniae* - Guerin Menerville

Des from Senegal. - Sp presented by  
 M. Guerin Menerville. I said to  
 be a silk producing insect. Rep. Dep Ag 1866.38  
 In new *Attacus*

*Saturnia Bauhinia*. Guerin Menerville or *Faidherbia*  
 Senegal each cocoon contains 633 milligrammes of  
 silk whilst the common silk worm contains only  
 240. & it is proposed to introduce it into Africa  
 See in Garz. 1865 p 87.

Californian

*Platysamia californica* (Grote.) G.R. 13.. (Saunders auth.) Am Nat 1. 557.

*Saturnia euryale* ♂ (no desc) Bois

*Salurnia* *ceonote* - (no desc) Behr

*Samia coryali* ♀ - no desc. Pack. P&S 3. 380

Ans per 74  
per 19. fm Calif

*Had Calig* *Pack* months before forming its cocoon  
female lays 200 to 250 eggs. The caterpillar requires generally from 2 to 2 1/2 food plant  
*Platyaspis Euryale* This insect is cultivated in Calif for its silk though the cultivation of the Chinese silk worm (*B mori*) is carried on there largely  
*Cronotus* An. Vol. 1.557  
*Pack Guide* 298

*Utaeus aurata*. Cramer sp. Pack PESP. 3.381. Pack. guide 297

"I have received from Mr. Uhler it was taken in Texas  
 & the spec<sup>n</sup> was in too poor condition to serve for  
 description it evidently forms the type of a new genus  
 & whether it is the true "arvora" figured by Cramer remains  
 to be proved. (Pack. P.C. S.P. 3.381.)

Hab. Cent & South America Brazil (Packs guide) too delicate for a northern climate (Packs)

*Altacus didyma* Beauv. Ins. tefrig et Amer. Pl. 20. Mar. Syn. 228. Pack p. 81. P. 381.

"It is doubtful whether any sp. of *Attacus* (of Hub.) exists in Amer. Park.

Saturnia myth name

*Saturnia gallina* Clem. P. Acad. nat. Sc. Phil. 1860. 1st. Pack 1955. 3383. G.H. 13.  
9 Mor. San. p. 222. See description.

The insect was taken by Dr. Arthur Schott of Georgetown D.C. on the Rio Bravo del Norte, in Western Texas, it was flying in the daytime amongst several flocks of H. macr., which were very numerous in that neighborhood - This was the only one of its species seen by the principal trees in the neighborhood near Cotton Wood. (note by Dr. Schott.)

Has Texas. (Mr Schott.) — Food plant prob Cotton Wood.

*Altavus pernix*. - allied to *Altavus mylitta* (*Anthusa* Poppy) <sup>11.10.2</sup>  
 & perhaps only a geographical race. Riley 14th Dec. 1888 near G. D. miles (y. 5, 5 1/2) near in the same  
 I treat the same relation to *A. mylitta* as - *A. cyathus* & ~~*pernix*~~ ~~*pernix*~~ *pernix*  
*A. pernix*

Attacus yama unca Anthracae  
" Mylitta see Anthracae

*Al. pernix* silk beautiful, fine strong &  
 brilliant. (Figur)  
 cocoons & moths first exhibited at the  
 universal exhibition 1855, procured by  
 M. Jordan of Lyons from Chinese cocoons  
 Figur 146 Good silk

*Anthracas Pernyi*, Guérin ménéville, Revue et May de Zool 1855. 297 pl. 6. fig. 1

"is a species distinct from any enumerated" in Cat Lep East India house 336

*Attacus pernyi* Pack guide 296 Am Ent. 2. 41.  
*Hal Manchouria* (US <sup>Albani</sup> ~~Albani~~) I feeds on Oak & has been raised in France

Figures taken from Specimens raised July 1870 in Brooklyn  
Long Island, by Mr. J. A. Hurler. & most probably the first  
raised in the U.S. (JG)



*Commelina macra* Biogeography of St. Lawrence  
East Coast station 23<sup>rd</sup> Aug.  
Sp. of W. S. Calcutt. rather  
egg shaped in a left  
curved twig of Oak.  
parasitic. *Commelina jugoslavica* say. which is also  
parasitic in *Epigea* stigma *Desmodium* but 15

*Hemileuca maii*. Caterpillars destroyed by  
*Arma modesta* Riley 5<sup>th</sup> Rep 1873 p. 73

*Gloveria* (Pack) arizonensis Pack.

one Specimen only taken by Fr Palmer Ins pt 103  
Bordeaux Mexico 1869. pg 7

\* Placed here only provisionally - as it is no Attain.)





*Hemiteuca maia* Drury  
Peach moth or Deer fly

Riley 5th Rept. 1873, p. 127.

flies at mid day in the autumn when the deer move  
hence the name

Eggs deposited in naked belly from 100 to 200

I appear about <sup>mid</sup> April sometimes even before the leaves of the  
oak are ready for them. they are gregarious & follow  
one another mostly in single file after the last moult they  
separate & scatter they pass through 5 moults & usually  
attain their full size about end of June. the cocoon is  
of the yellow & is not owing to any poisonous fluid which they  
inject but belongs to the substance of which the pupa are formed  
in a dead larva or a cast off skin this retains the  
involuntary power

pupa formed under ground in a simple oval cell

Im. appears about fore part of Oct. the males first

Destroyed by *Arma modesta* Dallas, *Limneria*  
*fugitiva*, Say, a small Johnsonian fly, an undetermined  
interogator and *Tachina anonyma*. (Riley)  
food plants Oak Horse Black cherry

*Hemiteuca maia* L.

eggs deposited in  
enclosed bags of  
parant. *Limneria*  
*parantii*

*Hemiteuca maia*  
*Arma modesta*

*Gloveria (Pack) arizonensis* Pack.

one specimen only taken by Fr Palmer Ins pl 103  
Borbu Arizona Mexico 1869. pg 7

\*. Placed here only provisionally - as it is in attain.)



*Agria* (auct. *Salmus*) Berge p 147. pl 31.  
*Phalaena* " *Lin*

J CXI

Hab. Eu.

I when young, has two thorns on its head. 2 upon the third ring  
 and one upon the last ring but one on its body. Feeds on  
 Apple. Birch. Birch. Hawth. Linden Oak. & pear. Berge

*Saturnia* (Schön) *cacogina* Berge 148 pl 31.

Larva unknown Feeds on Oak. J CXI  
 Has Dalmatia Has flies in July 3 from Berge

*Saturnia* *carpini* Berge 148.  
*Phalaena* *panonia minor*. *Lin*

J CXI 5. 6. 3 from Berge

pupa formed in July or Aug in a parchment like cocoon whitish  
 or brown in color which is flask shaped.

Food plants Apple, Alder, Beech, Bilberry, Blackberry, Cherry, Currant, Hawth, Oak,  
 pear, <sup>plum</sup> Raspberry, Rose, Sloe, Strawberry, Willow

Hab. north as far as Lapland. (Eu)

*Saturnia* *pyri*  
*Bombyx* *pavonia major*. *Lin*

Berge. 148. pl 31.

*Saturnia* (*Pavonia*) *major* *Lign* 251.

(on pear plum)

"cocoon brown of course with of great  
 strength"

more laid on the branches in many L.

st v Cherry, Elm, Hawth, pear, & plum.

J CXIV 3

Europe

*Saturnia* *spini* Berge. 148. pl 31.  
*Bombyx* *pavonia media*. *Lin*

J CXI 4 natur

cocoon is felt like not flask shaped but more flat roundish and  
 whitish brown. internally it has an especially thick spun cocoon.

(Eu)

Food plants Apple, Elm, Rose, Sloe.

*Saturnia* *rubrescens*

Robusta Blanch

holthrusana Walk

Hab. Valdivia Chile

J. CXII.

1. from nature

Specimen from the Smithsonian Institution.













alphas unseen obscure  
 Kipahy. head.  
 two color

*Adelocephala* (Basia) bicolor Grote GVR. 13. Grote PESP. 3. 538  
*Dryocampa bicolor* Har. 408. Mor 21. Mor Syn. 232. Pack PESP. 3. 384 Har Rep 3<sup>rd</sup> ed. 1862  
 ♀ *Sphingicampa distigma* Walth p. 120n Soc Nat His 1864 p. 290 W. PESP. 3. 423  
 ♂ *Sphingicampa bicolor* Walth.  
*Unisota bicolor* Grote PESP. 1864 p. 93.

Larva figured from a specimen in Alcohol sent by Mr. Walth.  
 of Illinois & not of the color of the living caterpillar

Lar. Papa & Ins. pl. 68  
 Call of Mr. Walth Illin  
 Kab Illin (Walth) North Car. (Harvey) Pack.  
 Food plant. ? Oak.

arous unequal.  
 o's car

*Unisota* (Hüb) pellucida Gr GVR 13. Gr PESP. 3. 93. Pack PESP. 3. 385

*Phaluena pellucida* SVA pl 58.

*Dryocampa* " Mor 21. Mor Syn. 232. Har. 407. Fitch 5<sup>th</sup> Rep. 1859. p. 46  
 Fitch to NYS Ag Soc. 1858 vol 13 p. 825

Transparent winged white spot moth (SVA)

Clear wing or pellucid *Dryocampa* Har

Olive gray Oak worm (Fitch)

Larva found (Ma) on Oak Sep & Oct (July NY)

Lar pl 6  
 fig 5. Oak and Sep

Ins pl 64  
 fig. 26 & 27 Ind.

Pupa formed under ground July 12 & Aug 13. (See) Aug (NY)

"Ind." Appeared Aug 8<sup>th</sup> & 24<sup>th</sup> Some perfect insects also came out in May (See)

"Larvae when at rest hold their anterior end slightly upward & forward with the horns  
 extending obliquely forward & outward. several usually found near each other on the same limb" Fitch

Food plant Oak

Has rare Can. (Saunders) Mass NY (Pack) Geo. (SVA) Mass Va (SVA) Can (Bathurst) Can East }  
 1. 165 }

*L. pellucida*. L. head and yellow body pea green back & sides shaded red. longitudinally striped pale  
 yellowish green & crossed with black lines

Ins. ochre yellow forewings of male purplish brown with a large transparent space in the middle near  
 a small round white spot. hind wings purplish brown almost transparent in the middle  
 feet purplish red. almost transparent in the middle 8 1.75 9 2.25



*Lygocampa venatorum* J. C. Leconte 23 Ann. Rep. 1845 col  
 → parasite *Limneria fugitiva* Say Hym. nat. hist. 18

*Lygocampa venatorum* J. C. Leconte 23 Ann. Rep. 1845 col  
 → parasite *Limneria fugitiva* Say Hym. nat. hist. 18

*Lygocampa stigma* J. C. Leconte 23 Ann. Rep. 1845 col nat. hist.  
 → parasite *Limneria fugitiva* Say Hym. 18

*Lygocampa stigma* Sm. Riley 5th Rep. 1873 p. 144

*Amiota rubicundata*, Fab. Riley 5th Rep. 1873 p. 138

Larvengo to moult

Eggs deposited in clusters of 30. to 40. on the underside of leaves.

In Missouri there are two broods annually, the first caterpillars appearing in June the second in Aug & Sep.

Food plant Oak. (auth. Riley & Saunders Can)

parasites. *Tachina anomura* Riley

" { *Tachina (Peleosia)* Riley 5th Rep. 180.  
       *lufasciata* Fab & *Limneria fugitiva* Say (Fab)

*Amiota rubicundata* remedy Riley 5th Rep. 1873 p. 144

watch for multi eggs latter part of May.

When the caterpillars are about to leave the tree cut a branch at least a foot deep around the tree into which they fall &c.







Lachneides Hübner has very mostly stout hairy small winged proctotermes antennae whilst the larvae are long cylindrical yellow & blackish tuberculate pupae of very dense brown. Pack 300  
 Lachneides (Pack) 35  
 from the locality appearance of the *Dr. Lachneides* GPK list (Lachneides Pack)

note " on restoring the name Lachneides of Hübner I apply it to a group including all three of this "stripes" indicated above & which when taken collectively correspond to the Bombycidae of the authors who consider that Bombyx more was the typical genus." Pack P&S P. 3, 385.

young belly  
 xavus thick  
 american

*Gastropacha* (Ochsen) americana (Har.) GPK 14. Pack P&S P. 3, 386. Mor Syn 233. Har 377  
*Gastropacha occidentalis* (Walk.) GPK 14. Pack P&S P. 3, 386. Mor Syn 233. Har 377  
 ? *Phalaena ilicifolia* S&L pl 57 (error)

the fore foot having 2 bright  
 streaks very narrow

Small Lappet Moth (S&L), American Lappet moth (Har.) Lar pl 2  
 Lar. flattened, gray, ringed low down on each side with light of blackish & green bars 9 on fig 18. S&L fig  
 Larva remains quiet during the day but feeds at night at May. Ins pl 52  
 Pupae formed in a brown web or cocoon among leaves &c the pupa fig 3. Ma.  
 is covered with a pale brown powder. - It assumes the pupa state in autumn

Lar. flattened & appears like  
 a swelling of the bark, seen  
 ash, gray & brown with light  
 blackish & grayish hairs on  
 the fore part are 2 bright scales  
 velvet bands. - 2. 80

Ins. appears the following spring. in May (Maine)

Food plant Ath. Oak.

Cherry, Birch, 350. Apple. (M. Ent. 2/32)

Hab Geo? (S&L) Md Va (S&L) Mass Maine (Pack) can. rare (Saunders)

Ins. turning reddish brown  
 more angled, of fine wavy reticulated  
 hairs along from crease to apex  
 45 ft. close with rugose  
 dark brown lines. 1. 50

note " whether *P. ilicifolia* of S&L is identical with either *G. americana* or *ferruginea*  
 can only be determined when specimens are received from the Southern States (Pack)

*Gastropacha quercaria* (Mor Cal 23) *Phalaena quercaria* S&L pl 103. See *Amphidasya* P. 130

*Gastropacha ferruginea* Pack. GPK 14. Pack P&S P. 386.

ponyinos us or  
 brown color

Hab Mich. (Pack)

" Smaller than americana & wants the emerald bands on the wings which are  
 throughout rusty brown." (Pack)

rolling a ball.

Tolyte (Hüb) vellela (Hüb) GPK 14. Pack P&S P. 3, 387.

Bombyx " Stoll.

*Gastropacha* " Mor 22. Morr. Syn. 234. Har. p. 234

*Planosa* " Fitch 2<sup>d</sup> Rep. 1856. 268. 3. 3<sup>d</sup> Rep. p. 20. 1856 Fitch in M.S. Ag. Soc. 1856 vol 16 p. 388

*Phalaena* " S&L. pl 52.

Black & white Tussock moth (S&L) Vellela Tussock moth Har.

Larva almost exactly the color of the young bark of the tree & is  
 active only at night - Respires perfectly quiet

Pupa. formed in a cocoon resembling soft brownish paper with a  
 few hairs interwoven in the web & frequently fastened to the  
 weeds bushes or twigs 10 Aug (Geo)

Ins. appears in Sept.

Food plants Apple Oak & Willow oak Persimmon.

Hab. Mass Wt. (Pack)

Md (S&L) Can (Bothine Can Ent 1. 45)

Tolyte. vellela Gr. GPK 14.

Pack O.

var A. " minuta Gr

Sp. det. ?

put above.

*Gastropacha* affinis

Ins. sent in collection of F. C. Smith  
 collected in South California.

also a similar used to for Nov? Cyrus Thomas. Min

Ins pl. 102  
 fig 9





lar. lance. lar. dull amber extremities and gray (saffers) black at tip. thorax & under body naked pale dusky green 1. 38.  
 One male. many seminaus have not covered with brown scales veins robust white, with irregular darker rusty antennae hair.  
 Female. many translucent with white crumby by 4 pairs condurant many beauty of pale dusky. antennae also somewhat hair. 1. 39

larices of the larch.

*Polype larices* (Pack) GFR 14. Pack PESP 3. 387.  
*Plumosa* " Fitch 2d Rep. 1836. 262. pt 2 figs 5-6. & Tr. N.Y.S. Ag Soc 1856, vol 15. p 494  
*Gastropacha* " Mor. Syn. 234.

*Larch cheater or Tamarack Lappet moth.* Fitch Ins pt 52  
 Lar. ash gray. flattened & closely resembles the bark. eats the phloem. Fig 7 Md  
 (from Papa Sep (H. Hamp.)  
 Coc. of the French larch with a roughish surface very similar in appearance to half gray wrapping paper attached to end of tree.  
 Hal Mass. N.H. (Pack) M. (Fitch.) Md (H.) Food plants { American larch or Tamarack  
 Can rare (Saunders) Can. Bottom Can. Vol 1. 62.  
 Parasite  
*Phryganeon planosa* (Fitch 269)

hatched a small larva a rose or furrow.

*Artace* (Walk.) *punctistriga* (Walk.) } GFR. 14. Mor 22. Mor Syn 237.  
 } & GFR. N. A. S. 2. 75  
 cocoons frequently found fastened to a stalk (Md) Col. coc. Ins. pt 64  
 14. 29. Md. Col.  
 Hab Geo. (Mor, Md H.) Ins at rest. pt 99  
 fig 6. Md

seric silk  
 more of the mulberry

*Bombyx mori*. Har 380 Pack Guide 295. Trae Ent 1/13.  
*Sericaria* " of French expositon & later  
 Common Silk worm. of commerce.  
 or Mulberry *Bombyx*. Har.  
 Ind. native of China but domesticated in the U.S.  
 the Larva when young will feed on Lettuce & when fed exclusively on the leaves of the Citrus orange for the sake of an experiment not only proved very healthy but produced a very fine & strong silk in Washington DC.  
 Mr Gallager of Washington has produced an extra fine & strong silk from some he fed in the open air upon mulberry trees planted in his garden & not attended to at all excepting when about to form their cocoons.  
 Food plants Mulberry  
 Citrus Orange (F.)  
 Lettuce.  
 note Dr Harris p. 380 says. *B. mori* "Should be placed after *Gastropacha*".

note "*B. mori* in Packard's Guide p. 293 is placed directly after *Platypleura* & *Lygopleris* (P. 55)  
 before *Attacus*.  
 " { The disease which destroys the insect called Muscardine & covers the body with a white efflorescence was found in 1835 by M. Badi to be a minute fungus "*Botrytis bassiana* in a state of vegetation when it by degrees occupies the whole of the interior of the body & then bursts through the skin " West 2. 383.  
 " here are as shown by Captain Hutton twelve species of silk worms most of which have been confounded under the name of *B. mori* & which belong to the genera *Bombyx* of Shrank, *Ctenura* of Walker, & *Trochcha* of Moore. There are six domesticated species of *Bombyx*. There is not silk enough in the cocoon of *Ctenura* to make it worth cultivating (Hutton) Pack guide 295.  
 " nature of the northern provinces of China whence in the reign of Justinian it was imported by the missionaries to Constantinople France to Sicily &c." Westwood 2. 332

*Bombyx* <sup>2</sup> *cythopoda* Dalman Hist. Insect. 2. 281  
 described by Dalman as having the hind legs jointed like the fore legs of the *Lymantria*

*Bombyx madrona* Humboldt. Hist. 2 p. 381  
 " Larvae social in habits forming nests of a dense tissue & (trunk) in hollow which are employed by the natives in the manufacture of silk "



*Bombix servani* more. Louis Orelly 4<sup>th</sup> Rep. 75

first attempts at sericulture were made in the beginning of the 17th Century in Virginia. & according to Wm H Vernon of Rhode Island \$30000 to \$50000 were annually raised in Connecticut from raising silk worms \$2,000,000. are invested in the silk business now (1870) in Constant in the establishment of Cheney Brothers Hartford in Calif. Mr Orelly reports that silk raising at present is not in a very flourishing condition although in 1867 when the interest in silk culture was at its height the pecuniary alone amounted to \$115,000. in Kansas Mr Boerssire has planted 8000 mulberry trees & has 2500 fine young trees in nursery & 612 planted out.

### Silk worm continued

there are three races one Annual produces only one brood in the year. — a second known as bivoltine produces 2 broods and a third Trivoltine which produces 3 broods annually. There are also races such as that of Milan & most of the Trivoltines which hibernically moult but 3 times the male cocoons are often more fruitful than those of the females. Copulation takes place soon after the moths come out of the cocoons but the female begins depositing eggs in a day or two whether her eggs are fertilized or not. — the worm finishes its cocoon in about 3 days and the chrysalis is formed in about 3 days more. — & remains as a chrysalis 2 or 3 weeks when it issues forth a moth.

Captain Hutton states that at least 6 species of silk worms have been domesticated from but see 3<sup>d</sup> series vol 3. 143 & 295 note in Darwin Animals & Plants under domestication 1 p 362

The common silk worm B. more was brought to Constantinople in the 6th century whence it was carried to Italy A.D. 1494 to France it is believed to have been domesticated in China as long ago as 2700 before Christ. Darwin Animals & Plants under domestication 1. 362



Bombyx mori

Rep. Sep. 1866. 35

It is said that the silk worm is a native of China but Lewis states that it originally came from Seresia the province of Sereia in southern Asia where in Autumn the female lays from 3 to 500 eggs upon the leaf of the white mulberry tree. It is claimed that the silk culture was known as a branch of industry in China 2,700 years before the Christian Era, it then spread to Tibet & was afterwards made known to the Greeks through their wars with Persia. It is said that these insects were first introduced into ~~France~~ Constantinople by two Theban monks in 555, a reward having been promised for the worms which produce silk. These monks secreted some of the eggs in a hollow cane. This was at the risk of their lives, the penalty for exporting them from China at that time being death. Henry IV. introduced the silk culture into France in 1607. & Frederick the great into Prussia in 1770. The natural history of the silk worm is much the same as that of several of our common native moths, the eggs are hatched by heat of the atmosphere or

sometimes by artificial warmth. The young worms are at first of a dark color; they feed upon fresh leaves of the mulberry, and shed their skins three or four times while growing. When fully grown they spin a loose, flossy web, in the centre of which the cocoon is afterwards made. Two fine threads, issuing from two small openings near the mouth, are glued together by a sticky matter resembling silk itself, which is produced from two smaller glands very near the others. The caterpillar turns over and over in the middle of its web, spinning the thread around itself till the perfect cocoon is formed. Those which gradually contract towards the centre, in the shape of a peanut, are considered the best cocoons for making silk. They vary much in color, according to the variety of the worm, some being perfectly white, others yellow, buff, or of a greenish tinge. These last are from Japan, and were, together with several other varieties, presented to the department by M. Guerin Meneville, of Paris. The worm, after perfecting its cocoon, changes to the chrysalis form within it, and in a few days works its way out in the moth state, after which it pairs, lays its eggs, and dies. The cocoons, thus perforated by the moth, are valueless for the purpose of reeling, and are often stained by a dark fluid discharged by the insect at the time of its escape. They are called "knubs," or "hunks," and may be carded and spun like wool. The inner surface of the cocoon consists of a gummy matter, and cannot be reeled or used as silk. To prevent the moth coming out the cocoons are baked in an oven, or scalded in boiling water. Mr. Prevost, of California, states that exposing them three days to the heat of the summer sun in that climate kills them.

The article used by anglers, and known as "silk-worm gut," is the silk bag before being spun. The worm, when ready to make its cocoon, is put in pure vinegar for some hours, after which it is cut open, and the silk bags taken out, stretched, and dried. This is the silk gut of the shops.

As the silk-worms are often hatched before the leaf of the mulberry is out, European authorities advise feeding them on lettuce and dandelion leaves, but say they never make as strong and healthy worms as those fed entirely on the

The natural history of the silk-worm is much the same as that of several of our common native moths. The eggs are hatched by heat of the atmosphere, or in 1760. introduced silk culture into France in 1607, and Frederick the Great into Prussia the penalty for exporting them from China at that time being death. Henry IV. introduced some of the eggs in a hollow cane; this was at the risk of their lives. A reward having been promised for the worms which produce silk, these monks were first introduced into Constantinople by two Theban monks in 555. It is said that these insects were first introduced into France as a branch of industry in China 2,700 years before the Christian era. It then spread to Tibet, and was afterwards made known to the Greeks through their wars with Persia. It is said that these insects were first introduced into Constantinople by two Theban monks in 555.



*Bombyx*. *Shrank*. *Hut Walker* & *more*. *Cat. Lepid East India house* 374

*Perianis*. *Lata Blanchard*.

"I have been found wild in England, in 1858." the 10<sup>th</sup> of June 1858. a number of silk worms estimated at from 80 to 100 were found under a hedge near Maidstone Kent the leaves of several plants in the neighborhood were found eaten the *Rubus fruticosus* or common Bramble being amongst the others "Cat Lep East Ind House. p 387". I know as *Pat.* in Bengal

*Bombyx*. *Huttoni*. *Metsuen*. *Cat. Lep. East India house* 379.

*Bombyx*. *Huttoni*. *Metsuen*.

*Immature silk worm*.

re. but is covered with long spines it feeds on elevation of 6500 to 7000 feet above the level wooded in one season and cannot be silk worms but must at least for the present for more particular description of *Caterpillar*

"not unlike to that raised in other countries." This remark is probably the ground of the tradition mentioned by Beverly, that the king had worn a robe of Virginia silk at his coronation. The revived encouragement given by the colonial legislature to the culture of silk had the desired effect. Mulberry trees were generally planted, and the rearing of silk-worms formed a part of the regular business of many of the farmers. Major Walker, a member of the legislature, produced satisfactory evidence of the success of the culture. 1,000 trees growing in the year of a like tenor were presented the

*Diseases*

*Muscardine*

the fungus. *Entomus muscardine* is the common fly a worm about to the of this disease becomes languid the dorsal pulsations become inaudible it suddenly dies & in a few hours becomes rigid & shrunken. Usually in about a day a white powder or effluence manifests itself. Genou covers the body developing most rapidly in a warm humid atmosphere this is caused by the development of a fungus growth *Botrytis bassiana* in the body of the worm a similar disease in the U.S. destroys some of our native caterpillars of *Arctia*. *Peromyscus* &c. This disease is infectious only not hereditary.

*Pestilence*. A sporadic disease of silk worms was become languid & often show discolored spots on the skin they die at all ages but the mortality is greatest in the last stage. This disease is entirely dependent upon the presence & multiplication of conjugation organisms or floating corpuscles in the bodies of the diseased worms which were first observed by Mons. Guerin Meneville in 1849 & more recently investigated by Mr. Pasteur. These conjugules fill the silk canal. invade the intestines & spread through the tissues of the animal this disease is both contagious & infectious & is also hereditary, on the mother side. The eggs may be infected & yet look fair & good.

culture of silk was also contemplated by settlers on mulberry trees on every ten acres their cultivation. Trees, seeds, trustees, to whom the managerial clergyman and a native of the art of rearing the worms the idea of the silk culture, and one side of the public seal was stages, with this appropriate volume containing "the account by the trustees of Georgia," it trustees was in the year 1735, on Savannah to England. It n.

countries of large parcels of raw raised by the inhabitants, and agents of the trustees, who had r 1751, a public filature was of silk from the year 1750 to r 1757, one thousand and fifty In the year 1758 this building d 7,040 pounds cocoons; but y exported upwards of 10,000 gs higher per pound than that statement of William Brown,

l in any of the British Amer- on, one hundred pounds; but tinent, and Pennsylvania are nimum. For the next greatest munda." Over



*Chiocampa americana* Harr. Riley 5th Rep 1873 p 56  
egg bell. fig<sup>d</sup> by Riley 3<sup>d</sup> Rep fig 50 incorrect, correct fig  
given: as the eggs are covered with a glue like  
vannish which almost conceals them. (correct my own fig)

*Macrosila carolina* Riley 5th Rep 1873 p 56.  
E W White of West fork Reynolds Co. sends seeds of  
*Naturastramonium* in every tenth bell on the  
outside rows of the tobacco field - then pulls up all  
but two plants. & every evening after destroying all but  
two flowers hangs nets thru a few traps or  
fly paper & mixed with sweetened water whiskey.  
& blue stone of the druggists

ΚΑΤΕΙΣΤΑΙ α hedge enclosure  
καμπή catenilla. Επ

*Closicampa* (*Auritis*) *americana* (Har) YBR. 14 Har 370. { Hatch 2<sup>d</sup> Rep. 1856 p. 181  
*Palaena castrensis* ♂ & ♀. pl 60. " N.Y.S. Ag. Rep. 1855 vol. 15 p. 413  
*Closicampa decisiva* Walk. Pack PESP. 3. 387. Eggs pl 101 Lar. pl 12.  
*Bombux americana* Fab. g.f.p. v. 1283, 2, 75. c. Jn. 9 M. 101. Tg. c. My June plum.

{ Apple tree tent Caterpillars  
Arm Ent. moths eggs vol 7 p 1122.  
eggs remain all  
upon tree.

*Plum Lackey moth (Sta) Lackey caterpillar (Harr) Insep 57*  
 (under) Eggs. (and also the worms in bunches of fruit) 30. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. 170. 180. 190. 200. 210. 220. 230. 240. 250. 260. 270. 280. 290. 300. 310. 320. 330. 340. 350. 360. 370. 380. 390. 400. 410. 420. 430. 440. 450. 460. 470. 480. 490. 500. 510. 520. 530. 540. 550. 560. 570. 580. 590. 600. 610. 620. 630. 640. 650. 660. 670. 680. 690. 700. 710. 720. 730. 740. 750. 760. 770. 780. 790. 800. 810. 820. 830. 840. 850. 860. 870. 880. 890. 900. 910. 920. 930. 940. 950. 960. 970. 980. 990. 1000. 1010. 1020. 1030. 1040. 1050. 1060. 1070. 1080. 1090. 1100. 1110. 1120. 1130. 1140. 1150. 1160. 1170. 1180. 1190. 1200. 1210. 1220. 1230. 1240. 1250. 1260. 1270. 1280. 1290. 1300. 1310. 1320. 1330. 1340. 1350. 1360. 1370. 1380. 1390. 1400. 1410. 1420. 1430. 1440. 1450. 1460. 1470. 1480. 1490. 1500. 1510. 1520. 1530. 1540. 1550. 1560. 1570. 1580. 1590. 1600. 1610. 1620. 1630. 1640. 1650. 1660. 1670. 1680. 1690. 1700. 1710. 1720. 1730. 1740. 1750. 1760. 1770. 1780. 1790. 1800. 1810. 1820. 1830. 1840. 1850. 1860. 1870. 1880. 1890. 1900. 1910. 1920. 1930. 1940. 1950. 1960. 1970. 1980. 1990. 2000. 2010. 2020. 2030. 2040. 2050. 2060. 2070. 2080. 2090. 2100. 2110. 2120. 2130. 2140. 2150. 2160. 2170. 2180. 2190. 2200. 2210. 2220. 2230. 2240. 2250. 2260. 2270. 2280. 2290. 2300. 2310. 2320. 2330. 2340. 2350. 2360. 2370. 2380. 2390. 2400. 2410. 2420. 2430. 2440. 2450. 2460. 2470. 2480. 2490. 2500. 2510. 2520. 2530. 2540. 2550. 2560. 2570. 2580. 2590. 2600. 2610. 2620. 2630. 2640. 2650. 2660. 2670. 2680. 2690. 2700. 2710. 2720. 2730. 2740. 2750. 2760. 2770. 2780. 2790. 2800. 2810. 2820. 2830. 2840. 2850. 2860. 2870. 2880. 2890. 2900. 2910. 2920. 2930. 2940. 2950. 2960. 2970. 2980. 2990. 3000. 3010. 3020. 3030. 3040. 3050. 3060. 3070. 3080. 3090. 3100. 3110. 3120. 3130. 3140. 3150. 3160. 3170. 3180. 3190. 3200. 3210. 3220. 3230. 3240. 3250. 3260. 3270. 3280. 3290. 3300. 3310. 3320. 3330. 3340. 3350. 3360. 3370. 3380. 3390. 3400. 3410. 3420. 3430. 3440. 3450. 3460. 3470. 3480. 3490. 3500. 3510. 3520. 3530. 3540. 3550. 3560. 3570. 3580. 3590. 3600. 3610. 3620. 3630. 3640. 3650. 3660. 3670. 3680. 3690. 3700. 3710. 3720. 3730. 3740. 3750. 3760. 3770. 3780. 3790. 3800. 3810. 3820. 3830. 3840. 3850. 3860. 3870. 3880. 3890. 3900. 3910. 3920. 3930. 3940. 3950. 3960. 3970. 3980. 3990. 4000. 4010. 4020. 4030. 4040. 4050. 4060. 4070. 4080. 4090. 4100. 4110. 4120. 4130. 4140. 4150. 4160. 4170. 4180. 4190. 4200. 4210. 4220. 4230. 4240. 4250. 4260. 4270. 4280. 4290. 4300. 4310. 4320. 4330. 4340. 4350. 4360. 4370. 4380. 4390. 4400. 4410. 4420. 4430. 4440. 4450. 4460. 4470. 4480. 4490. 4500. 4510. 4520. 4530. 4540. 4550. 4560. 4570. 4580. 4590. 4600. 4610. 4620. 4630. 4640. 4650. 4660. 4670. 4680. 4690. 4700. 4710. 4720. 4730. 4740. 4750. 4760. 4770. 4780. 4790. 4800. 4810. 4820. 4830. 4840. 4850. 4860. 4870. 4880. 4890. 4900. 4910. 4920. 4930. 4940. 4950. 4960. 4970. 4980. 4990. 5000. 5010. 5020. 5030. 5040. 5050. 5060. 5070. 5080. 5090. 5100. 5110. 5120. 5130. 5140. 5150. 5160. 5170. 5180. 5190. 5200. 5210. 5220. 5230. 5240. 5250. 5260. 5270. 5280. 5290. 5300. 5310. 5320. 5330. 5340. 5350. 5360. 5370. 5380. 5390. 5400. 5410. 5420. 5430. 5440. 5450. 5460. 5470. 5480. 5490. 5500. 5510. 5520. 5530. 5540. 5550. 5560. 5570. 5580. 5590. 5600. 5610. 5620. 5630. 5640. 5650. 5660. 5670. 5680. 5690. 5700. 5710. 5720. 5730. 5740. 5750. 5760. 5770. 5780. 5790. 5800. 5810. 5820. 5830. 5840. 5850. 5860. 5870. 5880. 5890. 5900. 5910. 5920. 5930. 5940. 5950. 5960. 5970. 5980. 5990. 6000. 6010. 6020. 6030. 6040. 6050. 6060. 6070. 6080. 6090. 6100. 6110. 6120. 6130. 6140. 6150. 6160. 6170. 6180. 6190. 6200. 6210. 6220. 6230. 6240. 6250. 6260. 6270. 6280. 6290. 6300. 6310. 6320. 6330. 6340. 6350. 6360. 6370. 6380. 6390. 6400. 6410. 6420. 6430. 6440. 6450. 6460. 6470. 6480. 6490. 6500. 6510. 6520. 6530. 6540. 6550. 6560. 6570. 6580. 6590. 6600. 6610. 6620. 6630. 6640. 6650. 6660. 6670. 6680. 6690. 6700. 6710. 6720. 6730. 6740. 6750. 6760. 6770. 6780. 6790. 6800. 6810. 6820. 6830. 6840. 6850. 6860. 6870. 6880. 6890. 6900. 6910. 6920. 6930. 6940. 695

black with white lines hairy & hairy a row  
of blue spots along each side

Full brownish red, fore wings crossed  
by 2 straight white bands running par-  
allel with the hind margin 1.20. to 2.

Pupae formed in slight cocoons, of an oval shape & but loosely woven in crevices of bark under boards &c. & hatched in pupa state 14 to 17 days.  
Insect appears the following May or June. (Probably 2 broods in the South.)

\* fear. Do Insure however states it  
will never attach fear see Rel. 3d Dep. p120

Food plants Apple cherry plum

Lab. Can. (Saunders) N.Y. Md Va (LG) Maine South? Wild Cherry Thorn. (Saunders Can)

*Platyaster*? in eggs. Proc Ent. 1.15<sup>78</sup> (Pach.) from Am. Ind.  
Parasites { Schineron fly Har p 372. sd 1862. " 1/78 " Thermophilus? } Peach, Pear, Apple and Rose Am Ind.  
*Pleonomus chlosiocampa*. Feltch 2<sup>d</sup> Rep. 200. & W.S. Dyar. 1855. Vol. 15. 430 } Birch Am Ind. 1861  
in eggs. 3<sup>d</sup> Pach. } Willow " " "  
I have proposed the name *C. americana* PERS 3. p 537. to be retained instead of }

Parante. Eulophus aff. }  
 Doch. 207.

eggs Chalcids 3 fresh. "Hollow" "  
\* Gnath proposed the name *C. americana* PESR. 3. p 587. to be retained instead of  
\* *Pimpla conquisitor* (Cresson) 1. 19. "Hermitules" in Egg. Pac Ent. 1. 78. & *P. terminalis* in Egg Do not C. 117  
\* *Pimpla holosericea* (Cresson) Pack 196 no 74 p 18.

*Chilocampa americana* Riley 3<sup>d</sup> Sep. 117  
eggs deposited in oval rows. Some on smaller twigs each cluster  
containing 2 to 300 eggs. Is covered by a coating of glutinous matter  
which dries into a sort of net work.  
The eggs hatch usually Dec. a day. Larvae are brown & once in  
yellowish green. Larvae 5 or 6 weeks, & change 4 times.  
Inhabits under such bark when not feeding & in inclement weather.  
Brows ~~larvae~~ generally formed in crevices angles of fence & of an oblong  
oval form. Top a yellow color. some cocoons however are formed  
in the last stage.

*Pemphigus* cut off egg clusters in hives & destroyed nests & caterpillars when  
in nest early in the morning or late in the evening. I planted my cherry  
trees in the vicinity of the orchard so that the moths will be attracted to deposit  
eggs. The nests  
destroyed by *Blacus ruficornis* Feltch Rep 1: p 200  
*Semiothisus* " " " " " " Rep 3. 161  
beaten by the American scutellars (*Coccyzus*).  
Poplar, White Oak Birch Hards of larch }  
" " " " " " " " " " " " }  
" " " " " " " " " " " " }

*Oleis-campa sylvatica* &c. americana when on fruit trees

Remedy " when collected together in trunks they can be slaughtered en masse during the mouthing period. also search for & destroy egg masses when the trees are leafless (Am Ent. 4301 2. 26)

When going out of their nest to feed always travel on the upper side of the branches & each one leaves a thread of silk behind it which probably serves as a clue to draw it back to the nest. They shed their skins 4 times before attaining maturity. I remain in the larva state from 5 to six weeks (from egg).

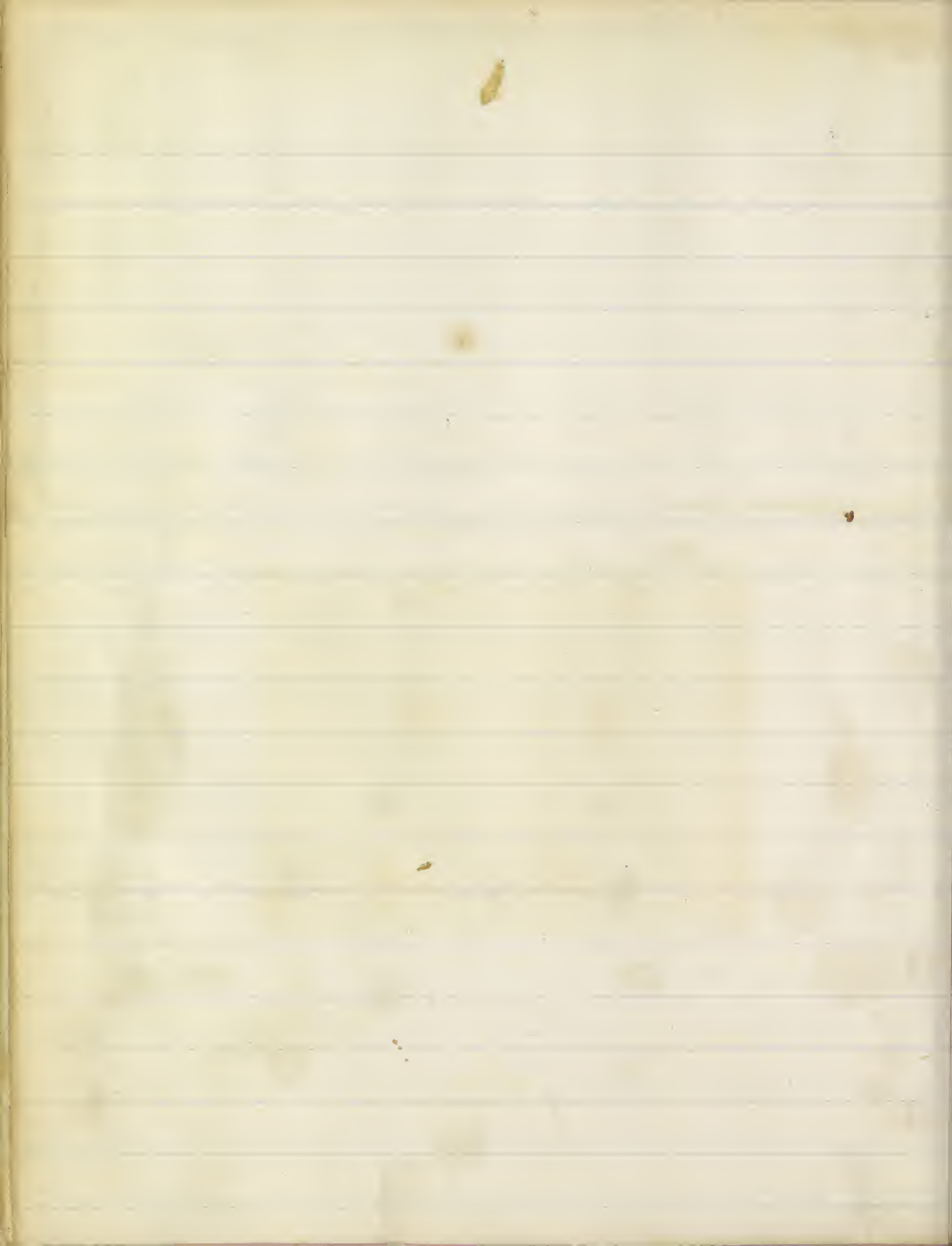
very closely allied is known by the common name of Lackey moth or Eng. Newman

*Elisocampa neutria* (Europe). Larva gregarious inhabiting a general nest which they extend from time to time, quitting it during the night in search of food but constantly spinning a line of silk in folds to direct them on their return before morning they finally quit the nest before changing into pupae. The eggs are arranged in a spiral coil round the young branches of fruit trees. West. 2-384

*Clethrionomys r. americanus*

Eggs infected by a parasite.  
*Plasmodium* (or allied genus)  
 Eggs probably laid within thorax of  
*Chorodactylus* early in summer. Hatch and in  
 Autumn. Hatched in Spring or early June 1907.

*Chrysompha*  
destroyed or reports by parasites.  
*Phaenocarpa* *Chrysomphae*. Pack 207



*Clisiocampa distincta* (Grote.) G 98 14 Grote P&S P. 3. 537. Pack Guide 304.  
*Malacosoma distincta* Hubn. 1856. 16 p. 337.  
 Cylus } *Clisiocampa sylvatica* Har. 375 Pack P&S P. 3. 387. } *Trich* Jr. NYS Ag Soc. 1856. vol 15 p. 430  
 } *Bethum* 1870 51. } *Trich* 24 Rep 1856 p. 198. & 5th Rep 1857 p. 20  
 } *Ennomis* 1870 51. } *Trich* 24 Rep 1856 p. 198. & 5th Rep 1857 p. 20  
 } *Ennomis* 1870 51. } *Trich* 24 Rep 1856 p. 198. & 5th Rep 1857 p. 20

**Forest tent Caterpillar (Har) Oak Luskay moth. (SVA) Lar. pl. 12**  
 Egg mass usually composed of 400 eggs (Am. Ent. Soc. 1890. p. 261).  
 Larva the two ends being hooked off & usually united by a slender web, more or less oblique, raised & V-shaped.  
 Insects appear the following season in (Hub. 2 broods in the south & 1 in the north).  
 These webs are made against the trunks or under the principal branches the caterpillars attach full size in July (Mass.) (No. 15 Mo.)  
 Pupae formed in slight cocoons, but is often spun a conspicuous web, upon the outside of which it hangs regularly from top to bottom.  
 Insects appear the following season in (Hub. 2 broods in the south & 1 in the north).  
 "differs from *Clisiocampa* in the space between the two oblique lines in fig. 9. 10. 11. Mo.

*Callosoma Scutellator* } *Good plants Apple Cherry Hickory Oak Plum Walnut.*  
 Rely 34. Rep. 123. } *Poplar* (Brachitt maine) Rely 34. Rep. 126  
*Callosoma Scutellator* } *Poplar* (Brachitt maine) Rely 34. Rep. 126  
*Callosoma Scutellator* } *Poplar* (Brachitt maine) Rely 34. Rep. 126  
*Callosoma Scutellator* } *Poplar* (Brachitt maine) Rely 34. Rep. 126

200. 1 light blue above on the back & greenish at sides, head blue top of 14 ring, 2 yellow spots & 1 black dot - a row of dorsal white spots top of the back. 2 small elevated black spots hang on each ring except eleventh, which has only 1 pair thin stripes on each side. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 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777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

*Clisiocampa sylvatica* Rely 34. Rep. 128  
 generally on mure when collected on trunks being usually reared generally on Cecard side cut off eggs in mure in mure the web being generally fastened close to the trunk is often overlooked Rely

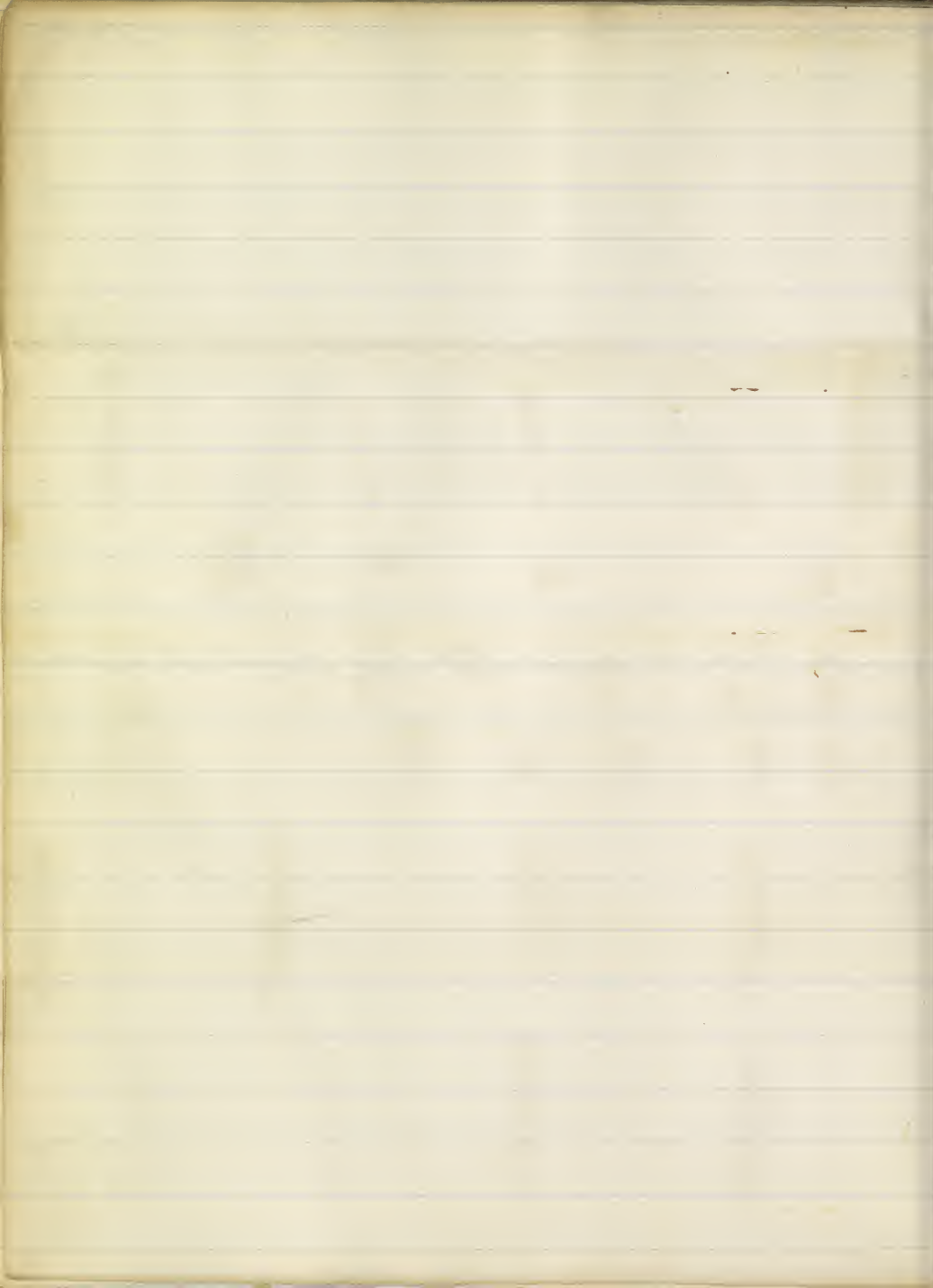
*Clisiocampa sylvatica* Rely 34. Rep. 128  
 incorrectly Army worm of 11th Dec 1871.  
 eggs laid in a cylindrical mass raised a tiny & may be distinguished by the cylinder being almost equally hooked off instead of sloping off considerably at each end so as to present an oval appearance.  
 Larva in large communities on a common tent or web web is made against the tree trunk or beneath the principal branches. the young larvae feed by match lines on & not under & I accordingly to some authorities when the larvae have attained some considerable size they spin no webs at all, in hot days in June they often gather in large bunches on the lower limbs near the trunk out of the sun.  
 (Black ash. White Ash & Basswood)  
 Beech & Dogwood Rely 2. 118. } Quince & Pear  
 destroyed by *Tachina* Rely 2. 118. }

*Clisiocampa californica* (Pack) G 98 14 Pack P&S P. 3. 388.  
 Californian *Clisiocampa* Sp. fm. Bost. Soc. Nat. Hist. No. 106  
 Hab. Calif (Doubt Pack) pg. 1. 42.  
 "differs from *C. doeringii* (americana) in that the  $\delta$  has the 2 transverse lines curved on the costal region" Pack P&S P. 3. 388









doubtful

*Xylotes roboraria* Pack

*Xylotes creperus* Har. GGR 14. Pack P.E.S.P. 3.388. Pack. Guide 302  
Cassius "

Ind. attracted by light & at the Mid. leg. college it was observed that at least 3 females were taken to one male - the most common species in Mass.

Lar. figured was taken in the decayed wood of Oak. \*  
(Md.) nov.

Lar. pl. 11  
fig 22 Oak Md.

Ind. pl. 63  
figs 1. 9. 10

Lab Md. (L.S.) common.

Food plant. Oak. &

" " Red Oak & Locust (Pack guide 302)

\* These insects were at first thought to be *X. roboraria* but Mr. distinct of Albany writes pl. 63 fig 12 "not roboraria which has not posterior wings acute. probably *creperus*" (Latham notes, as to 1863, fig 4. & It was taken about the same time as the ♀ in the same room. It is evidently ♂ & 1863, fig 1 as all the males & females captured were of this same species.

" I was observing that the females ~~above~~ <sup>much more</sup> appeared to be attracted by light than ♂

poplar

*Xylotes populi* Pack. GGR 14. Pack P.E.S.P. 338.

Cassius " Walk. Mor Syn. 134.

Hab. St. Martin's falls Albany near Hudson bay. Barnstone (Walk.) Pack

*Xylotes plagiatus* Pack GGR 14.

Pack P.E.S.P. 3.390

Cassius " Walk. Mor Syn. 134.

Note for Pack P.E.S.P. 3.390. "I find the following note in the systematic list of Canadian Lepidoptera by W.S. Mr. H. Moran Can. nat. & Geol. Aug 1860. p. 247

"*Cossus plagiatus* Walker rare July"

Can. early  
Can. Ent (2 p. 8)  
Bethune

In 1887. Mr. J.R. Fraley of the US Patent Office named this species Cassius Mr. Murtrei & informed me that it was common south of Pa. but rare in the middle States

*Xylotes Macmurtrei* of GGR List 14000 above.



42

Europe. to birds  
or the eggs.

*Nuxera* (Fab.) *pyrena* (Fab.) GRR. 14. Black. Pack PESP. 3. 390. Mor Syn. 125

Hab "North America" Fab.

*Nuxera canadensis* (H.S.) GRR. 14. Boid. 11. Seb. Walk. Pack PESP. 3. 390 Mor Syn. 125  
Canadian *Nuxera*

Hab Can. (Pack)

### *Hepialini*

*Hepialus* 1152  
W 89. Label partly obsolete antennae subuniform smooth shorter than thorax

others strength  
of look or appearance  
*argenteus* silver  
*maculatus* spotted

*Stenopis* (Pack) *argenteomaculata*. GRR. 14. Pack PESP. 3. 391. Pl. 77. 6. Mor Syn. 125

*Hepialus* " " Har Cat. Ins. Mas. 472. 1835. Agassiz Lake Superior p. 389

*Gorgopis* " " Gr. p. ESP. 3. 73. Pack Boston Jour. Nat. Hist. 1863 p. 596

*Eptalus* " " Mor. 14. Mor Syn. 123.

*Silver Spotted Hepialus* Har. Dragon Moth Canadian 2248. Ins. Pl. 101. fig. 17. fm Har fig.

*Hepialus argenteomaculatus* Har. 410

In color ashen gray fore wings variegated with dusky clouds bands. Thru a small triangular spot 1/4 to 1/2 inch dist. of body, white colored near their base the hind wings are tinged with some yellow towards the tip (Har) 2. 75.

Hab. Lake Superior Saskatchewan St. Martin falls Albany river Hudsons bay Can west 40.  
The units of *Hepialus* are stated by Grote in Can. Nat. to have a somewhat regular flight. It continues in one place driving or flying, few side to side just above the horizon within the space of a half or less (Can. Nat. 248)

*Hepialus*

*Stenopis quadriguttata* (Pack) GRR. 14. Pack PESP. 3. 392.

\* *Gorgopis* " " Grote. PESP. 3. p. 73. pl. 1. fig. 6. 9. 4. Vol. 3. p. 535

error *Hepialus argenteomaculatus* T. error Harris in Lake Superior (GRR. list) Har. 410.

error *Hepialus argenteomaculatus* T. Walk.

error *Stenopis argenteus* T. Pack. (see GRR. list)

Ins. pl. 76. fig. 15. Coll. of Ent. Soc. Phila.

Hab Great Slave Lake (Grote) Pack.

\* " allied to *S. argenteomaculatus* Har. " The disposition of the medial bands on the anterior wings is somewhat different. & they are not so largely tinged with ochraceous, the two white spots are somewhat smaller & the apex not so falcate whilst the coloration of the abdomen metathorax & posterior wings readily distinguishes the present from Harris species " Grote PESP. 3. p. 73.

" readily distinguished from *argenteomaculatus* by the smaller white gullaceous &c " Grote PESP. 3. 535.

*Stenopis argenteus* Pack. GRR. 14. Pack PESP. 3. 393.

Hab. (Mas.)

Ins. pl. 67. fig. 15. Coll. of Mr. Sanborn.

Note " Judging from Mr. Grote's figure of *S. quadriguttatus* the fore wings are more falcate, its colors are of a darker shade & the 2 basal silver triangular spots on the fore wings are several times larger than in the species from the Great Slave Lake " (*S. quadriguttatus*) Pack PESP. 3. 393.

allied to *S. humilis* of Europe.

purpuraceous  
gross purple or blue

*Stenopis purpurascens* (Pack) GRR. 14.  
*Gorgopis* " " " "

Hab. base of Mt. Washington

*Hepialus*.

This much resembles *H. pulcher* from Colorado  
 Almost probably is merely a variety of. See pl CXVII  
 was taken on the Rayden expedition

*Hepialus* *gracilis* (Grote) *GFR 14* *Grote P&S.P. 3 p. 523, pl 5 fig 1 & 2*  
*Hepialus* *gracilis* (Grote) *GFR 14* *Grote P&S.P. 3 p. 523, pl 5 fig 1 & 2*  
*Hepialus* *gracilis* (Grote) *GFR 14* *Grote P&S.P. 3 p. 523, pl 5 fig 1 & 2*

*Hepialus* *gracilis* (Grote) *GFR 14* *Grote P&S.P. 3 p. 523, pl 5 fig 1 & 2*  
*Hepialus* *gracilis* (Grote) *GFR 14* *Grote P&S.P. 3 p. 523, pl 5 fig 1 & 2*

*Hab* Canada (G.)

*Ins* *pl 80*  
*fig 23 fm G. fig*

*Hepialus* *mustelinus* (Pack) *GFR 14* *Pack P&S.P. 3. 398.*

*mustelinus*  
*like a weasel.*

*Ins* *pl 65*  
*fig 10 coll of Mr Sanborn. Man*

*Hab* Maine *Man.* (Pack)

*beautiful*

*Hepialus* *pulcher* (Grote) *Grote P&S.P. 3. p. 522. pl 5 fig 3. 3*

*Hab* Colorado (Findings) *Grote*

*114/1?*

*Ins* *pl 80*  
*fig 24 fm G. fig*

*Hepialus* (*affinis*)

*Hab.* *410.*

*Lar* lives in the joints of small branches of young trees. *Why its instars Lar pl 6*  
*also perforates by its calculator, are weaker than the rest of the stem, which it* *fig 2 Locust Ma*  
*Larvae live in the interior of small locust branches (Ma) (Haw)* *Aug & Sep.*  
*I devour the inner part of the wood & split, this causes an unsightly*  
*swelling - until finally the branch dies or is broken off by the wind*  
*Pupa formed among leaves on the earth in autumn.*

*see also Harris P. 318.*

*food plant* *Locust wood*  
*of small branches*

*Hepialus* *hyperboreus* *Moeschler.* *GFR 14*  
*hyperboreus* *Hepialus*

*Hepialus* *labradorensis* *Pack.* *GFR 14* *Pack P&S.P. 3. 394.*  
*Labrador. Hepialus*  
*(Aug 3. 1880. A.S.P. 5)*

*Hab* *Salmon bay on Caribou Is. Labrador, Straits of Belle Isle. (Pack)*

*Hepialus* *hyperboreus* *Moeschler.* *GFR 14*  
*hyperboreus* *Hepialus*  
*Aug 3. 1880. A.S.P. 5*









Noctuae Linnae

*Maenia Steud.*

3641

Put

145

1.

100

*Luettari: Slott 59*

2

## 4

Lee

---

222

7

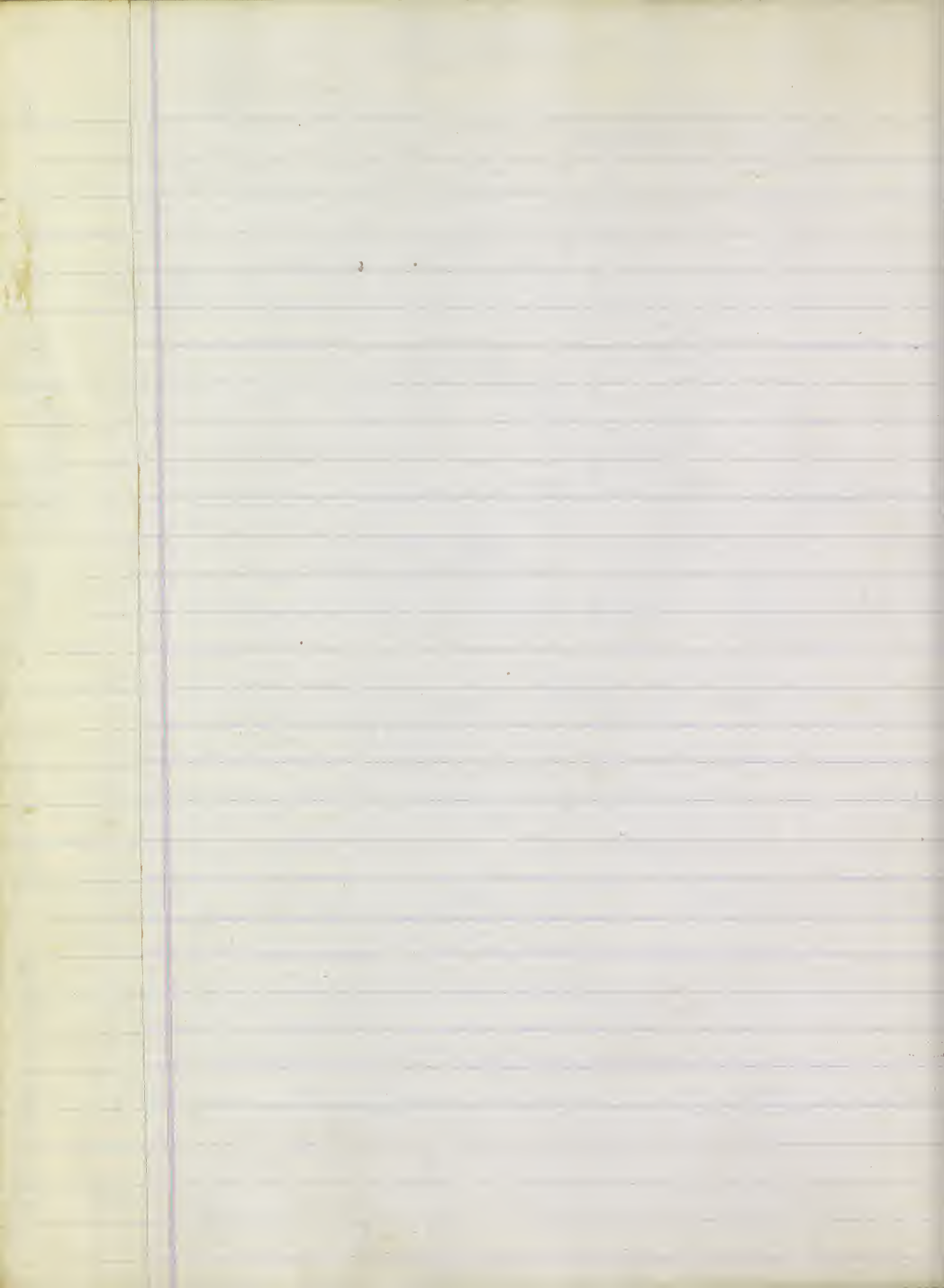
—

## 7

1

99





Gen. & sp. a little worm of *Phaenocarpa* W. S. G. H. 2600-81

Oblique structure of mouth often destitute of palpi  
maxillae seldom present very small, rarely very thick & hairy  
antennae usually 10-segmented, rarely 11-segmented to tip  
usually long & thin, often at base of first 3 segments or 4 segments  
at sides. The costa of the anterior wing extending beyond  
a narrow thorax not distinct, legs generally 7-segmented  
& naked. often have a transverse series of warts on each  
segment each furnished with a diverging coronal of hairs  
16 feet. Tupa formed in cocoons of silk rarely underground

## Noctuina Stainton

Tropidae. Bombycoliformes. Saunders (in.)

Cymatophoridae. H. Schaff.

{ Revision of Cymatophoridae Gr. P&S.P. 2, p. 53

{ 1. Cymatophora. 2 Leptina { Pseudolhyata of Grote P&S.P. 3, 539.  
3 Laemina 4 Truphosa 5 Lhyata

2 pupa a male  
Pupae bearing

Cymatophora (Walk) coniplaga (Walk) Grote P&S.P. 2, p. 56. Mor (Doubled) 26.

cané. young hairs  
black a stripe on thorax.

Hab Can. (Walker)

? 45715, narrow?

Leptina (Guén) Doubledayi (Guén) Walk. Gr. P&S.P. 2, p. 55. Mor 29.

Laemina Leptina

Insect taken in July Md.

Ins pt. 50  
fig 13. Ma.

Hab N.Y. (Guén) Grote. North St. (Mor) Md. L.G.

LXXXIV  
13.

ophthalmicus  
an ocellist.

Leptina ophthalmica (Guén) Walk. Grote P&S.P. 2, p. 57. Mor 29.

Insects from coll of Mr Saunders Canada (rare)  
"of rare occurrence" Gr

Ins pt. 83  
fig 24. coll of Mr  
Saunders Can.

Hab Mid St. (Grote) N.Y. (Mor) Can (rare) Saunders

102/3

Ins pt. 89  
fig 30. coll of Mr Saunders  
Can!

formosa favi or  
haubi om.

Plusia.

Leptina formosa. Gr. Grote P&S.P. 4, p. 323.

Insect figured from a drawing kindly sent by Mr Grote.

Ins pt. 81  
fig 15. Mass.

Hab Lawrence Mass (Grote) coll of Mr Jas. O. Treat

dormitans  
? Sleeping

Leptina dormitans Guén Grote P&S.P. 2, p. 57. Mor 29.

Hab N.Y. St. (Grote) N.Y. Mor.

Note smaller than ophthalmica

luteicornis  
a common one who  
lays in prolegs

Leptina luteicornis (Grote) Gr. P&S.P. 2, p. 57.

Hab N.Y. (Grote) resembles *L. dormitans* in markings & coloring but is larger than  
the costal straight. The exterior margin less oblique (Gr)

Leptina

It was sent from Illinois by Prof. Cyrus Thomas.

Leptina Doubledayi Guén

74/16. N.Y.

Ins pt. 122  
fig 31.



18705 false  
*Thyatria*  
 resembling a *cymatophora*

<sup>30</sup>  
*Pseudothyatria* (Grote) *cymatophoroides* Gr. Grote PESP 3. 539.

*Thyatria* " Guén. Walk

*Lacmia* " Gr. PESP 2. 58. PESP 2. (larva, 134 Gr. 2. 337.

also well clothed with hair exteriorly (var. <sup>1644</sup> <sub>1644</sub> coll. of Mr. Grote)  
 Lar. light green with pearly spots on the anterior segments. Ins <sup>1644</sup> <sub>1644</sub> Md  
 attain full growth in June (Gr. PESP 2. 134)

Ins. appears July.

food plant Pin Oak (Gr.)

"Cal East" Mid States Can. N.T. (Gr.) Va. Md (Gr.) Nova Scotia Bethune & Nov Se Ind.  
 2. 52

one that drives away

*Pseudothyatria expultrix* (Grote) Grote PESP 3. 539.

♀ *Thyatria cymatophoroides* Guén. Walk.

*Lacmia expultrix* Grote PESP 2. 58. pl. 2 fig 6 ♀. PESP 2. 134 (larva) & PESP 2. 337.

Lar. light green without the pearly spots & uniformly Ins. pl. <sup>63</sup> <sub>63</sub>  
 but very slightly clothed with hair & attain full  
 size in June. Fig 15. fm Grote

Ins appears July Gr. PESP 2. 134

Food plant Pin Oak (Gr.)

Hab. East " Mid States Can. (Gr.) Quebec Can. (Saunders) No

" differs from *cymatophoroides* by the absence of black spots at the base & internal  
 angle & blackly marked bands on the upper wings. Gr. PESP 2. 58

yvros. angle  
 p. vros bearing  
 scyplus written.

*Habrosyne*.

Gr (cor

*Stenophora* (Bouand) Scythia Goss Can Nat. 249. Walk. Gr. PESP 2. 58 pl. 3. fig 2.

*Thyatria abrasa* Guén. Mor 26.

Ins pl. <sup>48</sup> <sub>48</sub> Md

Hab. Mid East " States Can. Long Island (Grote) Md (Gr.)

*trastipa* prop. name  
 backfold modest

*Thyatria* (Ochs) *prudens* (Guén) Grote PESP 2. 11 59. Mor (Hüb) 26

Larvae like *Notodonta* the segments being humped  
 & the anal legs raised white at rest (Pack guide 304) Ins pl. <sup>76</sup> <sub>76</sub>  
 fig 3. Coll. Ent. Soc. Phil.

Hab. N.Y. (Guén) Grote

" *Thyatria* (Europe) Larva naked but furnished with a number of conical tubercles throughout  
 the whole length of body " Mor 2. 395



Lumber 23 Ann. Rep. M. S. Col. nat. his. Co.,  
*Bryophila pallidimaculata* Griseb. J. July  
 between the left testis & mesenteron

*Euthuranotia lemairei* Noctuinae Gr.

Phos friend  
Xpross gold  
rule

*Phyllochrysa* (Gr.) *regnatrix* Gr. Grote P&S P. 2 p. 339. pl 8 fig 1. 9 page 441  
\* ? *Euthuranotia lemairei* Cramer. Gr. P&S P. 2 p. 340

Specimen taken in a lighthouse near the Coast.

Ins pl 76  
fig 2. Coll Ent Soc Phil

Note "connecting link between *Cymatophorina* & *Noctuinae* & as such should head the family *Noctuinae*" (Note P&S P. 2. 339)

\* "maybe regarded as a native of Siam & the West Inds but which occurs at different localities along our coast" Gr. P&S P. 2. 340

*Brachyphididae* Guén

Bover moss  
Phos friend  
specto to behold or  
look upon

*Brachyphid* (Zetterstedt), specimen

Mon. 27.

Hab. Can (Saunders)

*Brachyphid* *teratophora* H.S.

*Erastria* *inscripta* Walk. G.R. to A.E.S. 2 p. 73

G.H. Harris

*Grammophora* (Guén) *trisinigata* (Hübner)

Mon. 27.

? Lar young, 18  
fig 11. Sawberry Sep Me.

*Grammophora*. *trisinigata* Pack Guide 308. (Noted as *Sengittala* H.S. Lar. de 36)

Lar figures 234 & 235 said to be brown with the third to the 14th seg

6th abdominal rings much paler. it has the unusual power of

Hab Can. (Mor) boring very smooth cylindrical holes in

solid pine wood. Specimens of its tunnels rec'd from Mrs G. Brynham. Larva just mounting

found on leaves of *Alnus* Lp. 12. Pack guide 308

Note these two figures of larvae answer both to Packard's outline & description

? *Polygrammate hebraicum* ~~Hübner~~ Hüb

*Grammophora* (Guén) *hebraica*. (Hüb) & Guén. Mon. 27

Ins pl 51.  
fig 34 Ma.

Hab Geo. (Mor), Md (H.S.)

→ Bombyx. Europe destroyed by *Stenopus oblique* Pack pl 10 fig 32

→ Bombycidae - 6 eggs destroyed by *Stenopus oblique* Pack pl 10. 31.

*Bombycoidea* Guén

*Microvelia* (Guén) *apithroides* (Guén) Mon. 28. Gr. P&S P. 3. 78. 1842. Gr. to A.E.S. 2. 195. pl 3 fig 70 & 69

Ins flies June. July.

Ins pl 67  
fig 11. Coll of Mr. Sanborn Man

Hab Atlantic Dist (Gr. H.S.) mid & east St. ? N.Y. (Mor)

*Microvelia obliterate* n.s. Gr. Grote 3. p. 79. G.V.R. to A.E.S. 2. 195. pl 3 fig 70 &

Ins pl 67  
fig 1. Ma

Hab East India St. (Gr) Md (H.S.)

Ins pl 70  
fig 8. coll of Mr. Grote

stara to hindu  
idea

*Microvelia nethercliffei* Walk

Hab Canada Saunders



frail

*Microcalia fragilis* (Lucas) Mor. 28. Walk. Grote PESP. 3. 80.

Ins. rare London Can. (Saunders)

Ins. pl. 82  
fig. 6. coll. of Mr. Saunders

Hab. Can. East. &amp; West. St. (Grote) NY (Mor) Can (Saunders)

p.p. epa. a hide or  
leather~~*Hypothera* (Luc.) *Grafii* G. Gr. PESP. 2. fig. 6. pl. 82 fig. 6.~~? ~~*Acronycta lepusculina* (Luc.)~~~~*Grafii* *Hypothera*~~*Aprotela imolata* Lucas

Ins. pl. 68

fig. 18. coll. of Mr. Walsh Hb.

*Dichthera* (Och.) *Grafii* Gr.

Ins. pl. 73

fig. 7. from Grote's fig.

Hab. mid St. Long Island. (Gr.) Hlin (Walsh) Can. not common Saunders



*Apateta*<sup>9</sup> *clarescens*. Guerin

XLIX/6,

*Apateta* *vinuola* Gr

84/11

*Apateta* *superana* Guerin

88./23



*Acronycta dissecta* G. Rob. Italy  
 Lenth 23 Ann. Rep. N.Y.S. Cab. Nat. Hist. 62

*Acronycta brunnosa* Guen. Italy.  
 Lenth 23 Ann. Rep. N.Y.S. Cab. Nat. Hist. 62

X pos. to 7  
up night  
offlees  
2, dashes against, split

*Aeronycta* (Ces.) *aflecta* Grote Grote PESP. 2 p 437

Ins pt 60  
fig 10 Md

Larva taken on oak 1st Sep. by Mr Saunders Can Ins pt 69  
Pupa Sep 6th. fig 30 coll of Mr Marsh  
Ins. June 30th (common Md) Food plant Oak (Saunders)

Hab. Can (Saunders) Illi (Marsh.) Md (G)

Ins pt 79  
fig 74 fm Gr fig

funer to bury

*Aeronycta funeralis* GHR. GHR PESP. 6. p 17. pl 3 fig 8.

Ins pt 78  
fig 4. fm GHR fig

Hab Ohio (GHR) Can (Bethune Can Ent 1. 85)

stata a small spous  
to be hear

*Aeronycta hastulifera* (Sm) Mor 27. SVA pl 92.

Lar Ins pt 16  
fig 7 Pa Bulcrum  
ang.

Larva found plentifully Va. near the Potomac river feeding  
on Bulcrum. in Aug.

Pupa formed in a cocoon Sep. food plants Bulcrum & *Belula serrata*  
Ins. appeared. June (Goe) & Am Alka. SVA

Hab. Md. Va (G) - Geo (SVA)

Mr Lenthor doubt this being  
*A. hastulifera*

*Phalena hastulifera* of Smith & Ahlstedt  
*Aurea alba daggenmuthi* SVA fig. 188. 34  
Pupa serrata. - Aurea alba.  
cath yellowish hairs, with short even hairs spiracles white  
under part gradually shaded into black or black  
mouth gray with very long black hairs from outer to inner margin

(97)

upsculac  
a young hare or  
caterpillar

*Aeronycta lepusculina* Guen Mor 27. see also *Diphthera gracilis* (Gn) p 46.

Ins pt 59  
fig 12 Md.

Hab Can (Saunders) Md (G)

max night  
vay or to wander

*Aeronycta noctuagor* G. Gr. PESP. 2 p 436. pl 9 fig 2.

A long walk. GHR Tr 188. 2. 77.

Ins. taken June at Colony Can by Mr Bethune

Ins pt 79  
fig 1. Grote fig

Hab N.B. Pa. (Gr) Can Can Ent 1/1

*Aeronycta occidentalis* G. sa Psi N. H. p. 70. Lenth 1869.

*A. papuli* *lepusculina* Guen  
*Aeronycta papuli* W.S. Riley 2<sup>d</sup> Rep. p 119. figured  
Cottonwood dagger.

Larva although not strictly gregarious when young is not scattered  
much from the branch on which they were born.

Larva of *A. americana* is distinguished by its greater size, paler color,  
the hair's pale, more numerous, spreading in all directions & whitish  
on 10 & 11. On 12 & 13 two distinct black pencils one originating on each  
side of the dorsum.

*A. papuli* on the contrary has a long straight double tuft of black  
hairs on top of joints 4, 6, 7, 8, 9, 10 those on joint 7 & 8 being  
the smallest. (Riley)

Ins pt 108  
12 fm  
Riley fig

→

harant

*Microgaster aeronyctae*  
Lar. 30 to 40. from one caterpillar  
in a mass of flaxy silk.

aphon  
+ *Laelum* Riley 2<sup>d</sup> Rep. 1869. 120.

Cottonwood.



*Aeronycta*

Ins pe CXVI. fig 73. (US)

Want

*Aeronycta superans* Guen. Le Baron 1849 Ill.  
Guepés chesnut barkes Plum caterpillar. Nov. 1871. 51  
description J. & S. food plant Penn  
(Nat. Can. Ill.)

*Aeronycta superans* Guen. Saty.  
entom 53 (can. Rep. 1845 Cat. nat his 62.

morosity somewhat like a moro,

*Aeronycta morula* ♀ GPK Tr A&S 2. p 196. pl 3 fig 75.

59a

84 pl 49  
14 3. fne GPK fig

Hab NY. (GPK) Can. (Can Ent 1. 85)

obtusities smeared

*Aeronycta oblinata* Guen Mar 27. S&A pl 94 Bethum Jr Nov Scot Ins 2/82.  
Smeared or cotton moth S&A. Smeared Dagger. Rely

Lar fig 9  
fig 10 Ragran. Ma Oct

Larvae spun a white web for cocoon on the leaves Nov (Geo.)

Lar Ins pl 16  
fig 8. Bramble Ma Aug

Pupae formed in Sep. (Can)

Insect June (Can)

Lt var. Ins pl 60  
fig 21. Md.

Food plants Bramble Water plants Cotton Willows (S&A)

Pel grass Smartweed (Rely)

Poplar mild Raspberry Strawberry (Saunders)

Apple. Rely. Am Ent V.B. 1.  
2/341

Nov Scotia (Bethum) Grape. Rely. 3<sup>d</sup> Rpt. 70

Remedy handpicking Rely 3<sup>d</sup> Rpt. 70

*Aeronycta oblinata* parasites on Rely 3<sup>d</sup> Rpt. 71 Rely.

Hyp Schenomon univascatorius Say.

" Alucides Relyi. Cresson.

" Polyphecta beccanata. Rely Mos

Gray dagger moth. Reed. Rept Fruit growers Ont. Ontario Can. 1870. 127.

*Aeronycta psi* Guen. Mon 27. Mark Lower GPK \*\*\* Lar pl 10  
fig 15 S&A. on Pear

" occidentalis GPK. P&S R. 6. 16 {Hr GPK} Tr A&S. 2. 77

" Saggittaria Har Cor

(occidentalis) found in trunks of trees Boston May & June.

Hab. Mass. Can. NY. S. Ill. (Hark) Can. (Can Ent) Food plants Cherry Apple (Saunders Can)

" Pear Rept Fruit growers Ontario 1870. 127.

Gray dagger moth, I feel on Apple & plum. Mr Saunders of Canada to resemble the Larva of *A. psi* which  
- eggs pass on cherry & apple in Canada. - The specimen figured was however taken on  
Pear in Washington D.C.

lar

Eng. Gray dagger moth. November 259.

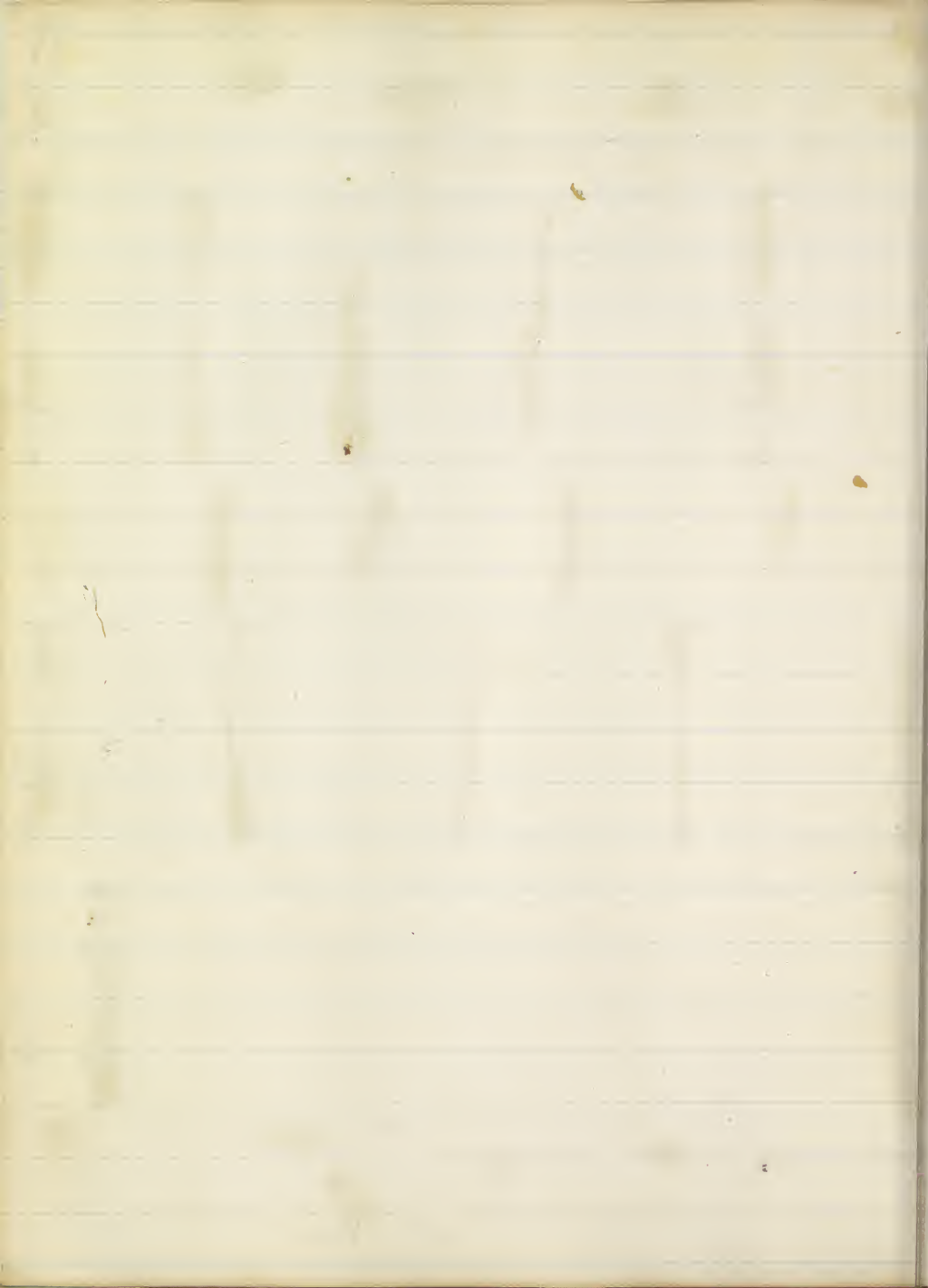
*Aeronycta psi* / Saunders. desc. in Rep. Fruit growers and Ontario 1870. p. 127  
desc. 2. body cylindrical 12-15. 50. long sparsely covered with whitish hairs head long beelohed  
black. body black gray with a black colored dorsal band having a central pale orange  
line from 2<sup>nd</sup> to 5<sup>th</sup> segments. each segment with spots one in front & one behind bright  
orange or 4 one on each side of a greenish metallic line. the whole being set in a narrow  
circular patch of each black. 2 lateral cream colored bands adjoining the dorsal band  
on the dorsal portion of the 12<sup>th</sup> segment is a dull black spot considerably raised  
irregular face. dull greenish feet black. Feeds on Thorn. pear plum &c. Reed. Can

pupa formed in a tough silken cocoon interwoven with hairs of its own body  
in crevices of bark. or other sheltered places.

Ins calls *psi* from an irregular cross shaped black marks. on upper wings which  
bear a strong resemblance to the greek letter *psi* placed sideways situated near  
the anal angle.

*Aeronycta pruni* Har corrie Tr A&S. pl 15 fig 13  
{cocoon of silk interwoven with  
fragments of wood of box. or in folds leaf

Plum Mountain Ark.



*Acronycta ulmi* Har Connsp. p 312. pl 3 fig 10

Sept. make a tough cocoon.

Elm.

60

*Acronycta vinnula* G&R Tr AES. 2 p 118

*Moriceola* — " — G&R P&SP. 2 p 436. pl 9 fig 2.

apparently rare species (G&R)

Hab N.J. (G&R)

Insd pl 79  
fig 3. Grates fig

not on n.





*Acronycta* ?

Insect for coll of Mr Philip Sprague Boston

In pt 107  
pg 1

telum a var.

*Acronycta* ~~tobacco~~ <sup>Linn</sup> ~~Mor~~ <sup>Guen</sup>  
Cobolae GuenIn pt 60  
pg 22. Ma

Hab Md. (S)

*Acronycta* ?

Larva found on Rib grass Md Oct.

Lar pt. 4  
pg 10. Ma.

Hab (Ma) 25

*Acronycta* ?

Larva taken on Hop Md July

Lar pt 21  
pg 8. Ma

Hab Md. (S)

*Apatela* ?  
*Acronycta* ?

Hab Md

In pt 59  
pg 3. MaCanada  
Saunders

{	<i>Acronycta fasciata</i> Walk. r.	<i>A. leporina</i> Linn.	{	<i>A. decolorata</i> Walk. r.	<i>A. viridis</i> Walk.
	" <i>lucida</i> Mor.	<i>A. lucida</i> Mor.			
{	<i>Acronycta aculeata</i> Guen.	<i>A. innotata</i> Guen.	{	<i>A. longica</i> Guen.	<i>A. decolorata</i> Walk. r.
	" Mor.	" Mor.			

*Apatela* - *A. decolorata* Guen sent 1. 85. CVM/1.oblique oblique  
folds to bed*Falsa obliquifera* Walk.

Hab Can (Saunders list)

GeniinaeLeucanidae Guen*Mythimna* prop name*Mythimna* (Hüb) ?

Mor 29.

*Leucanidae**Leucania pseudargyria* Guen Mor 28. (Lentner notes)Specimen from Coll of Mr Saunders Canada I sent as  
*Mythimna* ? At 15 96In pt 87  
pg 15

Hab Can (Saunders)

*decolor*  
*maculosa* tawny*Mythimna decolor* is the only one mentioned in Saunders list.  
" *contraria*, *tripans* & *retorta*. " " Mor cat.

*Helicophila conoides*, Guan 84/21

*Helicophila (Lacania) harveyi* Gr I 45/3 Ma & XLVIII/23  
LXXX IV/13 Can

*Scopelosoma*

*Lichogramma* (Grote) *Walkerii* Grote P.B.S.P. 2. p. 439. pl 9 fig 5.  
*Walker Lichogramma*

Hab Can mid States rare. (Grote)

Ins ps 79  
fig 7. from Grote fig

" approaches most nearly the genus *Mythimina* (Gr)

*Scopelosoma*

*Lichogramma* *vinulenta* Gr. P.B.S.P. 2. p. 440. pl 9 fig 6.

Ins ps 79  
fig 9. from Grote fig

Hab Texas (Gr)

*Heliophila pseudogyria* Guen

*Heliophila* *Leucania* *pallens* Linn/17.

*Leucania* ? Guen clearer Ma Oct L 14/13

pale color

*Leucania* *pallens*

Mor 6.

Bethune. In Nov Scot. Ins 2. / 32

*Heliophila*

*Leucania* *transversus* moth of England. Newman 261

Ins ps 53

fig 17. Ma.

Hab. Europe. U.S.? Can West Not common (Saunders) Ma (S.G.) Nova Scotia (Bethune)

*Leucania* *ostensookii* of Kirkpatrick  
small var. of *L. impuncta*. Riley 2. 4 fig. 51.

*Leucania* ? aff.

taken Mar. June 23? coll of M. S. Auburn.

Ins ps 107  
fig 10

*Leucania*

aff *Leucania* aff.

*Heliophila* *landrege* Gr

Ins ps 107  
fig 10

coll of M. Wiedemeyer  
N.Y.

Hab N.Y.

~~*Leucania*~~

*Heliophila* *harveyi* Gr Gr

Canada  
Saunders

*Leucania* *straminea* Trill } *L. diffusa* Walk. } *L. insuetus* Guen }  
Mor } } }  
*L. muslinia* Walk. }  
Doubled Mor }

Ins ps 48  
fig 3 Ma



*Leucania unipuncta*. Haworth. Tanners Rep.  
 deposits at base of grass (fruit growers) N. S. Curtis 1871.  
 Eggs hatch May 1871. South Ill. & me.  
 I sometimes found in nest arms, hence name.  
 Very worm like, in caterpillar state about 14  
 weeks. It forms in a silk cocoon under  
 dry herbage or forms an oval chamber under  
 ground.

*Leucania unipuncta* (extranea) in 1861 did damage  
 to crops to the extent of half a million of dollars  
 in eastern Massachusetts alone.  
 Smith. Conn. Report B. O. 1871. 205.  
 Is attacked by *Tryblium* species of  
 was may be 4, p. 207.

*Leucania guller* *Agassiz*  
this throat hatched voracity

Extraneous  
strange or foreign

*Leucania unipuncta* Haw. & K. & A. S. 2. p. 74 Fitch to M. S. Ag. Soc. 1860. Oct 20 p. 358  
*Leucania (Osh) extranea* Guen. Walk. Mor. 28.  
" *unipuncta* Haworth. G. P. 3. P. 3. 540. Each quite 300.

Grass or Army worm of the western States  
white speck night hawk (European authors) Fitch. to M. S. Ag. Soc. 1860. 366.  
eggs probably deposited at the base of perennial grass stalks  
Larvae appear in immense multitudes in the West. St. & destroy  
the grass grain & other crops, hence their vulgar name  
of army worm as when one field is eaten out they  
march or crawl to the neighboring fields in search  
of food. Mr Saunders of Canada says "it is sometimes  
quite a scourge but at other times it is scarce in Can."  
several that were sent from the west were destroyed by  
a species of two winged fly - Lar. 1st. parts about 12 weeks

Pupa formed just on or under the earth again in a mud earthen cocoon  
or cell of dry grass. (Pupa.) about 2 inches underground Fitch. Freeman a pupae about 2 1/2 weeks

No hides by day always by night Food plants Grain Grass &c. Wheat &c.  
" Said by Mr. Thomas to be 2 broods in the year. M. S. Ag. Soc. 1860. 366.  
to be only one brood. which is probably correct. Fitch. to M. S. Ag. Soc. 1860. 366.  
Rab. plentiful M. S. East India St. Gots. Va. Md. S. G. Man (Saunders) Can (Saunders)  
{ N. G. Columbia Branch (Cuen. & Fitch to M. S. Ag. Soc. 1860 & 1866)

*Leucania unipuncta* Fitch to M. S. Ag. Soc. 1860. Oct 20 p. 358  
Larva strips the leaves & leaves the heads from wheat stalks or wholly consume  
the plants of wheat when young. When on their march their progress is at the  
rate of from 2 to 3 rods an hour. It is one many lurking place is in the wild grass.  
of wet spots in swamps near the borders of swamps. & multiply much faster  
in dry seasons when the swamps dries & are dry & when it is thus multiplied a  
wet season & overflowing swamps & are from its lurking place in floods, & multiply  
note. "Bunches of wheat, heads, & stalks, & flax were not injured, but stalks all eaten Riley 2d Rep. 37  
"Smother & cover amongst Redtop very little touched" Redtop all eaten Riley 2d Rep. 37

*Leucania* Pack. in Rep. Ag. Mass. 1860 70-263  
"the female grows to a large and before laying her eggs  
which are not protected by a scale but by a cottony secretion"

*Leucania unipuncta* Haw. in many parts of Ill. 1861. Riley 2d Rep. 5. 41

Remedy.

Burn over meadows in winter or very early in spring this will  
destroy most of the eggs. plowing late in the fall or early in the  
spring will have the same effect. judicious ditching will prevent  
(Larvae) them from migrating into other fields - (the ditch should be made  
perfectly perpendicular or even slanting a little upwards at the side of  
the field to be protected &c.) when in the ditch they can be  
killed by applying fire to straw thrown over them, when already  
in the grass. rolling the field with a heavy roller will destroy  
multitudes.

in 1861. for New  
England to Kansas  
crossed by about  
the same or more  
in Eastern Mass.  
alone exceeded  
half a million  
dollars. Pack 1st Mar. Rep. 5

6 species of *Leucania* & one of *Tachina* prey upon this species. (Pack quite 308)  
*Diptra* (*Tachina*) (*Exorista* *leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*)  
Lar. *Leucania* also devours great numbers of the pupae of *Exorista* (*leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*) (*Exorista* *leucania*)  
*Microgaster militaris* Grav. Ent. 1866

*Leucania*  
parasitic. *Exorista militaris* (Walsh) as on page  
yellow tail *Tachina*  
Another species of *Exorista* *flavicauda* mentioned by Riley 3d Rep. p. 51. has not  
mentioned on what insect parasitic. with head broader than thorax &  
nearly 2cc the size of *E. militaris*.  
where no vegetable food remains eat each other. Mo. Ann Ent 2/32  
" " " " " but own experience

*Leucania unipuncta* Pack 203.  
" destroyed by parasite *Microgaster*  
" " " *Pteromalus*

Parasites over

*Leucania extranea* American wasps eat  
one specimen taken in the State of Cal. Sep. 1859. Newman 261

*Arzama vulpica* Gr 117/11  
 Lfcs in stalks of *Peltandra virginica* Arrow <sup>arum</sup> ~~and~~ ~~arum~~  
 L Jun 26 M Aug Sep

Parasites on Army worms. See Riley 2<sup>d</sup> Rep. p. 33. figs

\* Chalcid albipennis attacking the Peromastix

Mesochus vitivius Walsh. glassy mesochus. Hym.

\* Peromastix minimus (Hymen apterous) Larva from lady's finger on stem  
small cecidion, symmetrically arranged side by side envelopes in a glass 33

\* Microgaster militaris Walsh. Loc. open air irregular masses & are so completely  
covered with loose white silk that they look like pieces of fine wool  
attached to the back of the worms, p. 53 Riley 2<sup>d</sup> Rep. & Dr Ent. 1. 46. 4<sup>o</sup>

Glyptus purgator. Say the female simply attaches her egg by a pedicel to  
the skin - the footed grub does not entirely leave the egg case but

US in general { the last joints of its body remain attached to the shell while it reaches  
over. With its sharp jaws gnaws into the side of the worm (Book in Riley  
Schneeman leucania Stb. & 2 others under cuticle of fig. in  
Harris p. 130. 2<sup>d</sup> Rep. p. 53

\* Microgaster is destroyed by Glyptus rufescens fig.  
& Hockemus perfulcra

Leucania rufescens. Dr Ent. 2. 113

and brood produced in a year pupa formed underground the  
moth usually appearing a few weeks after though a few pupae do  
not transform until the following year

Arzoma (Walk) obliquata G. & H. Am. Lep. Part 3. p. 17. & Tr. Am. Ent. Soc. 1 p. 339. fig 6/fig 4

Ab. atlantic dist. 94. (Gr. 18)

note - the genus seems allied to Nonagria. G. & H. & A. E. S. 1. 334

Uparrilla Guen

Gortyna (Och) cataphracta Grote. P. E. S. P. 3. 81. pl 3 fig 3.

a delicate species with the habits of G. reclus Guen (Gr.)

Ab. East & mid states. (Grote)

Gortyna cerussata Grote. P. E. S. P. 2. p. 432. pl 9 fig 1.

Ab. Pa. (Gr.) Mass (Sanborn)

Arkos white  
Grypa marks on wings

Gortyna leucostigma Guen Mon. 28. H. & S. 1841.  
White spot Gortyna Har  
cataphracta Gr. P. E. S. P. 4 p. 324 ?

Larva burrows into the stalk & devours the inside of the  
roots. July Mass.

Ab. Mass (Sanborn Harris)

Food plant, Columbine

1-25. L. whitish with a few black dots on each of the wings  
head brownish top of first & last wings blackish  
C. Aug.  
L. 1st. fore wings fawn yellow sprinkled with  
purple brown dots. Two broad bands & bases with margin  
hence to arm. distinct. Many yellow spots on the fore wings  
by a row of faint yellowish dots between brown band  
& margin enclosing spot are yellow margined with brown  
& 2nd. and spot of a white color near the margin spot  
hence wings pale buff or yellowish white with central  
spot & band behind it of a brownish color near  
edge.  
Larva thorax fawn yellow with brown spotted edge  
of neck & head etc. covers brown.  
various larger & with 3 or 4 white dots 33





\* Excerpt from letter June 24, 1869, "on the largest stalk you will notice the hole where it entered - that is generally in the third joint from the root & they eat through each joint to the bases. They are also at work on the corn." W. C. Hargreaves, Chamisso, Osage Co., Mo.

L. Spindle worms

Wings venomaculate for having a pair of elevated thorax horns  
entirely arranged about 1/16 inch long, whilst the insect  
when alive has the passage of opening in the form of one  
narrowed V. or of shunt up or so to appear as a single  
thorn. This arrangement is no doubt useful in enabling  
the pupa to work its way out of the conchoid with more  
facility - Natch thinks the perfect moth hibernates  
V in dry clay the eggs too

*Gartyna nitida* Guér. Let Banan non en M. Rep 2  
161

Longine wheat by long in stream

Gortynce appassiorata Harvey 96/14 Can

*Gortyna vitula* (Guén) Mor. 29.  
calaf

Hab Md (LG)

Note this figure resembles *G. rutila* of British Museum but - her listner states it does not compare with Guen. fig.  
I see pl 91 fig. 10. *G. purpurifascia* Gr. to GSS. 1.341, pl 7, fig 51, which it resembles very much

*Gortyna speciosissima* GOR & A.E.S. 14.343 pl 7 fig 52.

Nab Atlantic Dist<sup>r</sup>, Scrunk RJ. GHR.

"perhaps the largest North American representative of this species" Gr

66a

retro. skin of a  
red deer;

*Gortyna nectis* Guén. Mor 28.

Hab Ill. (Mor.) Ind. 29.

Ins. pl. 68.  
fig. 6. Ind.

lt. var. Ins. pl. 68.  
fig. 11 Ind.

purpura purple  
fused strips.

*Gortyna purpurifascia* GPK. Am. Lep. pl. 3 p. 19. & 2. A.E.S. 1. p. 341 pl. 7 fig. 51 &

Hab Atlantic dist. Man. (GPK)

Ins. pl. 91  
fig. 10. from GPK. fig.

"allied to *G. rutila* Guén but more fulvous colored & distinct in the form of the transverse posterior line & in the shape of the reniform spot." GPK.

? *inquisitor*  
searched for. ?

*Gortyna inquisitor* GPK. L. A.E.S. 1 p. 344.

Hab Atlantic dist. N.Y. B.S. 3. GPK.

resembles *Hydraxia loea* <sup>1899</sup> superficially but nearly distinguished by the very distinct angulated median shade & the lower accessory ordinary spot.

*Gortyna marginidors* Guén & *lenigula* Mor 28. GPK. 4. 325.

var. *rutila* GPK. 4. 325

G. flavago. Saunders lat. Mor 0.

margin a margin  
dors. looks

agata

rears of the corn.  
or maize

*Achatodes* (Guén) rears. Har. Grote P.E.S.P. 3. 574. & 4 p. 325. Pack guide 311 Feb 2/95

*Gortyna* rears Har. 439. Mor 28.

*Achatodes* *sander* Walk. Guén & H.S. Ch

Corn *Gortyna* or Spindle worm Har.

Ins. pl. 71  
fig. 12. coll. of Mr. Grote.

Larva

when young & tends  
eat into the corn stalks, penetrating to the soft centre  
causing the young leaves to spindle & perish.

Spindle

formed in the burrow made by the larva

Can rear (Saunders)

Hab Man. Har

Food plants in Maine *Lathra* Elder

Lar. 108.  
found in Elder  
June. Ins. July  
very much injured.

in stems of

slip water  
when house.  
needs to work

*Hydraxia* (Guén) *nictitans* (Doubled.) Mor 29 Bethum Tr. Nov Scot Ins. 2/82

? *Baptista*

*Hydraxia nictitans* Far. north of Newmar 230

Ins. pl. 61  
fig. 11 Ma

Hab Ma (H.) Man. (Sanborn.) not uncommon Can. (Saunders)

Ins. pl. 65  
fig. 12. coll. of Mr. Sanborn

Nov. Scotia. (Bethum)

*Hydraxia loea* Guén Mor 29. Bethum Tr. Nov Scot Ins. 2/82

Ins. not uncommon in Canada (Saunders) Ins. pl. 82  
fig. 7. coll. of Mr. Saunders Can

Hab N.Y. (Mor) Can. (Saunders) Nova Scotia Bethum

? Larvae made of  
leaves.  
or down leaves  
a small thin worm





zona a bar or belt *Hydroecia* sera. GHR. Tr. A.S. 1 p. 346. pl 7 fig 55. ♂

Hab. W. Pa. Can. (GHR) Can. Can. Ent. 1.85.

Ins. pl. 91  
fig 6. p. 541 fig

"readily distinguished from *H. militans* Vence by  
its darker color, the shape of the reniform spot, &  
excavate fringes" GHR

? *Hydroecia*  
straw or stable

*Hydroecia stramenlosa* Guen. } Can. Saunders. } Ugal. Saund. }  
" *erythrostigma* Guen. } *gemmaris* (Guen.) } *salicarium* Doubled. }  
" } " } " }  
" } " } " }

*Xylophaca apanusformis* Guen. Tene.  
 Lenth. 23 ann. Rep. Hy. 5. Cub. not hi. 62.  
 after nephelodys.

*Xylomyges curvialis* Grote.

In. pl. CXVI. 3. fm cell of Mr. Grote

very pale, adu.?  
minor  
immature

*Nephelodes* (Guén.) *minians* Guén. Mor 36 Bethune Tr Nov. Sect. Int. 2/82

" *rubecolans*?  
*Graphiphora expansa* Walk. GHR 5<sup>a</sup> 285.2.78.

Ins pl 60  
fig 25. Md.  
96/22 Can

Hab (Ma) 38 Nova scotia (Bethune) & Can

rusty

*N. rubecolans* Guén } *N. signata* Walk. Can. (Saunders list) *N. violans* Guén (Mor 38)  
*N. Nova Scotia* }  
Bethune

color wood.  
pale appearance  
apparition again  
wood color

*Xylophasia* (Stephens) *lignicolora* (Guén.) Mor 30. Bethune. Tr Nov. Sect. Int. 2/82

*Hadena*. Mor.

Ins pl 82  
fig 18 call of Mr Saunders  
Can.

Hab. Can (Saunders) Nova Scotia (Bethune)

*Xylophasia* *cercher*. of Newman 254

common

*Xylophasia* *vulgaris* GHR. P & S. 6 p 18. pl 3 fig 2. 8

Ins pl 78  
fig 6. GHR fig

Hab. Miss St. (GHR)

" said by Walker to be allied to the European *X. polygon*. (GHR)

*Xylophasia* *apurodonis* Guén  
*Hadena* *contorta* Walk. GHR 5<sup>a</sup> 285.2.78

*X. verbascoides* Guén. *X. indocilis* Walk. *X. lateralis* Esp. Saunders list Can.  
Mor 30 " (Gable Mor 30) & Nova Scotia (Bethune)

scolio's curve }  
expansy caterpillar  
of wood

*Iscotica* (Guén.) *ligni* Guén Mor 38.

Larva found in rotten oak wood Md Lang.

Lar pl 18  
fig 18. Md. oak join

Ins taken June & July Ma

Ins pl 28  
fig 14 Md

Hab Geo (Mor) Ma 38. Food rotten wood Oak.

Ins pl 50  
fig 11 Ma July.

note. Placed directly after *Nephelodes*. Mor. might it not be placed near *calcampura* p. 106?

*Phalena phyllocaea* } fig 38 & 39.  
Poke wood moth.  
Virginia poke weed.  
*Phyllocaea* *decaudra*.

L. black with longitudinal stripes of yellowish red.

sparsely striped above yellow.

L. upper wing brownish with darker shade - lightest margin.

Can this be the same as my figure on the cotton?

a Hab X & Y/4. & LXX/29.

phyllocaea Sm. Mor 39. S & A pl 97.

cat 39  
alt. S & A.

Ins not into ground July 5th (Geo)

Ins not 11 July (Geo)

Lar. pl 9. fm S & A fig 10.

Ins pl 66  
fig 5. 6. fm S & A

Place in Morris 39 directly before *Lophogyna*.

Food plants. Poke weed?

*Phalena angustata* fig 38 & 39. N. 191.  
Cottonwood moth.

Guinea corn grass.

Cater. greenish with longitudinal yellow stripes  
fig. grayish brown. with 1 or 2 of upper wing under

most white. shades darker toward margin

Note this moth is very similar to the grass caterpillar or army

worm often with. but S & A figure are too light colors

The caterpillar also resembles the army worm in many respects

Can it be the same? the food also is similar (See my figures 8.)

Guén. *Frugiperda* Sm. Mor 39. S & A pl 96 & Guén. Riley 2<sup>d</sup> Rep. p. 41

unmarked by Riley  
in moth. S & A

Lar pl 11  
fig 4 fm S & A

Ins pl 66  
fig 11. 12 fm S & A

into the ground July 15th (Geo)

od July 27th (Geo)

Food plants Guinea Corn, Grain, Wheat, etc.

Hab Geo. (S & A)

note. very closely allied to the following "*L. macra*" which was also taken in Geo

S & A very similar in habits 95





2  
moca. Can. barren

*Laphrygma* <sup>*frugiperda*</sup> *macra*?  
? *Laphrygma* Saundersii  
? *L. frugiperda* S & A

Nov 0.

(named from British museum Specim) Pack guide 313

Georgia Grass worm. Army worm or caterpillar. T. O. Ag. Rep. 1855, p. 77.

Larvae found in immense numbers in the cotton fields of Georgia feeding on the grass & weeds between the rows of cotton. These caterpillars are seldom if ever known to injure cotton seriously & I have frequently been mistaken by the planters for the cotton army worm (*Anomis xylemia* p. 117. which does so much injury to cotton alone this caterpillar may however be readily distinguished from the destructive species by its crawling motion when proceeding from place to place & not creeping or bending its body as is the habit of the *Anomis xylemia* when these caterpillars are kept in confinement & not well supplied with food they eat each other. Pupae formed in an earthen cocoon. under sods stones &c. Insect appears a week or 14 days after the pupa is formed.

This is probably the same as *Prodenia autumnalis* of Riley?  
or a southern variety

Food Plants Grass V.  
Cotton (very sparingly)

Hab Geo (G)

note. Mr. Listner writes that pl 19 fig 18. is not *macra*. although the other specimens were named from. It in the British museum. may this not after all be the *L. frugiperda* of S & A?

*Laphrygma* <sup>*frugiperda*</sup> *autumnalis*. Riley. Ann Ent & Bot. 2. 363. fig. Riley 3<sup>d</sup> Rep. 109.  
" Daggyi. Riley. Ann Ent & Bot. 2. p. 43. V. 329. (fig Lar.)

Daggy's Corn worm. Fall army worm. Riley.

Eggs deposited in small clusters after 2 or 3 layers one above the other the whole cluster being covered sparsely with the yellowish hairs from the ♀ abdomen. on leaves.

Lar. Congregate together - They destructive to newly sown wheat in Mo. (but said also to leave Blue grass untouched & found also on the heart of the plant (as *P. Daggyi*) it is also said to eat holes in Maize where it not only eats the leaves, but also eats into the heart of the plant.

→ parasite *Tachina* <sup>*anchipus*</sup> *macra* where it not only eats the leaves, but also eats into the heart of the plant (as *P. Daggyi*) it is also said to eat holes in Maize where it not only eats the leaves, but also eats into the heart of the plant.

→ parasite *Exochus* <sup>*leucocoma*</sup> *macra* where it not only eats the leaves, but also eats into the heart of the plant (as *P. Daggyi*) it is also said to eat holes in Maize where it not only eats the leaves, but also eats into the heart of the plant.

Pupa formed in the ground without cocoon?

extremely variable indeed so variable that three species might easily be fabricated by any species grinder who happened to capture at large the three most distinct varieties without knowing anything of their transformations. Riley

2 or more broods in the course of a year. L. J. pl 108. fr. 15 Riley

Grain. Wheat. Oats. Rice. (Riley 3<sup>d</sup> Rep. 111) Food plants Maize. Wheat. Apple. Peach.

The Larva resembles my *Laphrygma macra* pl 18 or southern grass worm & the perfect fly also is very similar in appearance - (note the underwing in my figure ought to be white) fig 5

*Manastrea picta*. Har. Bethune Ry. fruit groves  
 also Ont. 1871. 85  
*Lobelia calycularis*  
 feeds sparingly on foliage but  
 when disturbed coils itself up & drops to the ground  
 & breeds annually  
 Cabbage Cauliflower Spinage Lettuce  
 when young gregarious but when older  
 separate feeds singly  
 the fall brood feeds on flowers of Aster for  
 of Strawberry honey-suckle myrica  
 alpinus clover lamb's quarters

one marked

*Laphrygma univignata* Doubled. Mos 29.

75

Ins. near London Can common (Saunders)

Ins fl 22

fig 19. coll of Mr Saunders Can

Hab Flor (Mos) Can. (Saunders)

Prodes to march  
or come forth.

*Prodenia* (Quin) *commeliniae* S.A. Mos 29. P.O. Dig Rep 1855 p 162. *Ins* ear *Prodenia*  
Havana Bdv. Mos. Am Ent 2 p 33.9 (29) 1855 Lar fl 14 p 31. Oct. 1855

*Commelina*, (a plant)

*Commelina* or Wild Cucumber moth S.A. Spiderwort Wild Mole Plant Lar fl 19 Cotton bolls

Larva very destructive to the fruit of the Tomato. Washington D.C. 1857. fig 19. 1857  
found also in cotton bolls in the same manner as the bolls were  
*Heliothis armigera* (p 109) *Ins* then kept in confinement very  
difficult to rear as the caterpillars frequently die apparently  
from overfeeding - their bodies being very much swollen & when  
dead emitting a very unpleasant odor.

Pupa formed under the leaves or earth

Ins - appears 10 Sep. Geo.

Comfrey wild

Food plants *Commelina* or day flower, ground h.  
" (fruit) Tomato. (bolls) cotton. Cabbage

Hab Md. Va & C (S.G.) common  
Can. (Saunders) Geo (S.A.)

Marx in ear.

*Prodenia commeliniae* Riley Am Ent 13. 2 363

Larvae never congregat in multitudes as does the Fall Army worm  
*Prodenia autumnalis* Lar. also perfectly smooth & no hairs in Riley fig (2) 363  
whilst *P. autumnalis* has 2 or more bristles on each segment of body.  
It resembles very much my fig fl 13 fig 5 of the Southern grass worm.  
*Laphrygma macra* fl 18 page 100. - the underwing of which are light & not  
dark as in my fig  
The perfect insect of *Commelina* may also always be known by the tips of the wings  
being more prolonged & acuminate & the 3 forked ~~primary~~ veins in the middle of  
the wing being much more conspicuous than in *P. altissima* Riley

2.00

Light yellow, with 3 longitudinal black stripes,  
one on each side, & one on top of back. head, belly & feet  
brown. full size Oct.  
It hibernates brown, & found under ground.  
most prod. 2 broods, 1st June, 2 July & Aug. Here in Pa.  
It is light brown shaded with purple brown, the ordinary  
spots on fore wing, 1 3 & oval spot behind round one.  
Edged with gray, a transverse zig zag gray line  
forming X in the middle, near each hind margin.

1.80

Larva unknown, again

Latin name

*Mamestra* (Ochs) *picta* (Haw) Mos 29. Bar 452. Pack Guid 312 Riley 21 Rep 112

*Peranema causta* (H. Zell) (Haw) the GWR H. A.E.S. 2. 75 Bethum to Nov Soc M 75 Lar fl 16  
fig 11 Clover & M. June

*Mythimna contraria* Walk. GWR H. A.E.S. 2. 77 syn. C. exilis  
*Gebra* a Caterpillar. moth. Painted *Mamestra* Haw  
Larva lives exposed on the leaves when disturbed coils its  
body spirally, feeds on Cabbage Cauliflower &c. June. 18

Pupa formed under ground. Oct.

Ins. common Md. (S.G.) Can. (Saunders)

(Ruta baga Pr Ent 2. 2) Food plants Beet Cabbage Cauliflower  
Clover flowers Plantain Spruce

Hab common Can. (Saunders) Mass. (Sanborn)

Md. D.C. Va (S.L.) Nova Scotia. (Bethum)

It feeds on Cabbage & Cauliflower but in  
the spring feeds on Cabbage & Cauliflower but in  
the spring feeds on Cabbage & Cauliflower but in

*Mamestra picta* Riley 21 Rep 112.

Lar when young gregarious but when older disperse & attain full size in about  
a week. 2 broods annually

Pup. formed in a red cocoon just under the earth formed of silk beads grains of  
sand or earth together.

Spinning thread confine themselves to cruciferous plants or cabbage beet spruce &c  
fall brood collects by hundreds on heads of flower buds of Riley on snowberry &c

100

100



§ CXV. *Mamestra* <sup>vel</sup> *dubitans* <sup>Walsb.</sup> Aug.  
B. <sup>Leconte</sup> <sup>cat</sup> 23 Ann. Rep. My S. cat. Nat. his. 62

*Mamestra* *ochr. lorea* Guen - I 65/1. fm Sanborn

*Mamestra* *leucogramma*

Ins. pl. CXVI. fig. 5. fm Coll. of Mr. Grote

*Mamestra* *nimbosa* Guen 106/22

*Mamestra* *abjecta* Bois, Oct  
B. <sup>Leconte</sup> 23 Rep. My S. cat. Nat. his. 62  
I. <sup>at</sup> <sup>Salicago</sup>

167.

*Gramma laspis* Guen., Linn. 23 June 1845  
 Cabot's Nat. Hist. 62  
 after *deformosa* Mammillaria.

*Opamea* prop. name

*Badena*

*Opamea* (Ochl.) *sinuata* Guén. Mor 32

filicinus  
breeding upon or  
above

Insp. pl. 65  
fig 4 coll. of Mr. Saunders Man.

Hab. NY (Mor) Mass. (Saunders)

Legitimate

*Mamestra*

*Opamea* *legitima* Cole B & S. 3 p. 82 pl. 2 fig 4.

Insp. pl. 64  
fig 6 coll. of Mr. Saunders Man.

Hab. Mid & East. N. common (Gr.) Mass. (Saunders)

*Canada*  
Saunders

{ *Opamea* *modica* Guén. } *O. insignata* Walk. *O. glaucoviridis* Walk.  
    *O. subnigra* Walk. Mor } Doubt. Mor.  
    G. & S. 2 p. 78

*O. rubrescens* Walk.

*O. velata* Walk.

phexing  
flat.  
lucous  
ash colored.

*Placodes* (Bd.) *cinereola* Guén. Mor 32.  
? *Meana* *atomaria* Bois. museum

Insp. pl. 60  
fig 23 Md

Insp. pl. 61  
fig 24 Ma

Hab. MA (JG)

pair to spot speckle  
or 5 mm.

*Meana* (Walk) *undulifera* Doubt. Mor 39.

See *Erastria* *nigritata* p. 110.

" " " Walk. Saunders list.

pl. 55 fig 6.

fig 69 fig 22

*Erastria* *nigritata* G. & S. Tr. A. S. 2. p. 78.

Hab. Can (Saunders) Flor. (Mor)

*Meana* *undulifera* is struck out of Can. list (Can Ent 1, 71)

*Meana* (Minor of England) Newman 302



Igritis cut worm remedy  
 probably pretty a tree or 1 wooden enclosure  
 around the plant to be protected would answer  
 as a corresponding state in the Ann Nat VII. 372  
 that in an experiment tried by him the cut  
 worms never crawled over the box or enclosure  
 but when it found no opening to get at the  
 plant it ~~immediately~~ <sup>had</sup> climbed to the  
 top it invariably descended by the outside  
 of the plant without.

## Mamestra

*Clanena (Steph.) herbinascuta* Guér. Mor 39. *herbinascuta* Stephens

Figure 8 minor cons name. Riley 1<sup>st</sup> Rep 86. on small white bristle Cut worm Riley

Is very common in Maryland & is attracted into rooms by the lights in the evening. It is said by Mr Saunders to be also very abundant near London. Canada

In p. 53  
p. 76 Md.

Lab. Md Va (29) Can Saunders Illin (Riley) Nova Scotia (Rethum)

food Plant Cabbage herbaceous plants

*Clanena hunchi* (from walk) 6/18/72 46.5.5.72.  
from Melinda Walk  
from Semifurca Walk

Noctuidae

Noctuidae Medium body robust. antennae almost constantly simple being rarely pectinate or ciliated in male. Thorax stout often erect, wings of moderate size with many nerves. I generally with peculiar ear shaped spots on disc of fore wings, mouth well developed the lower lip or maxillae being greatly elongated ways in repose ordinarily deflected at the sides. of body lateral patch of moderate length terminated suddenly by a small or slender vane clothed with scales rather than a poorly crenate, abundant of an elongate conical form. rarely so robust as in bombycoidae. Westwood 1827

Surface caterpillars (Pentis. (But worms) Noctua. (Mamestra)

"The most certain means of getting rid of these troublesome caterpillars is to look over the plants carefully & destroy them; and as they frequently hide themselves by day under the earth when they are in their last skins the search might be more successfully pursued at night when they come forth to feed. Cents 115.

Experiment " 1/2 oz of salt dissolved in a quart of water poured over the plant. taking care not to let any run into the hole, saved the plant. It caused the worm to leave other plants & crawled with this solution was also saved with a heavy shower of rain fell. which washed it off. 123. Cents

dig them out. 124

Roots useful "

Tobacco water will kill them if it come in contact with their skins. 125

"Laying dry soot I wish thick over the ground & digging it in. Soot is very offensive to the surface grubs. 127

"Quicklime when the plants are wet will have the effect of destroying the larvae when they come forth to feed. 128.

Major recommends 1 lb of soap to 10 gallons of water applied warm until it sinks in their burrows which will cause the worms to crawl out of their cells with their heads upwards where they will stand perished - circularly as if they were killed however in 10 or 15 minutes they will recover & retreat into their holes again also

Sprinkled into seed plot with a row of Cabbages &c. castlespinner &c for a trap.

but over the plants with quick lime when wet

Search at night when they come out to feed. Look carefully beneath the leaves by day. 126.

put in.

Salt water poured over a turnip plant at the rate of 1/2 oz of salt to 1 quart of water drove the surface grub away but it proceeded to another 6 yards off. They can travel well & repeatedly especially at night when the ground is deep during to dig other plants were washed with that solution & were thus preserved but when dissection turned they shared the fate of the others

Children might readily pick them from the earth with a sharp pointed flattened stick or cystine Rump. Cents 129

Noctua 171

Calculus used to be destroyed by *Amurephila* *fabulosa* (Europe) & *terre* as food of *Opomacris* (not or burrows)

Cut worms & Crows corn soaked 48 hours in a solution of chloride of lime & copper. Am Ag. 1861.185.

Cut worms - make narrow smooth holes in ground with a round stick about 5 or 6 inches deep & examine every morning for the worms which have fallen in & are unable to crawl out.

*Agrotis atripans* Grote Bull. Buff. Soc Nat Sc. 1. 97.

Ans pl. CXVI. fig 11. from Coll of Mr Grote.

*Agrotis auxiliaris* Grote Bull. Buffalo Soc Nat Sc. 1. 96.

Ans pl CXVI. fig 15 from Coll of Mr Grote

*Agrotis annexa* Treitsch 46/11.

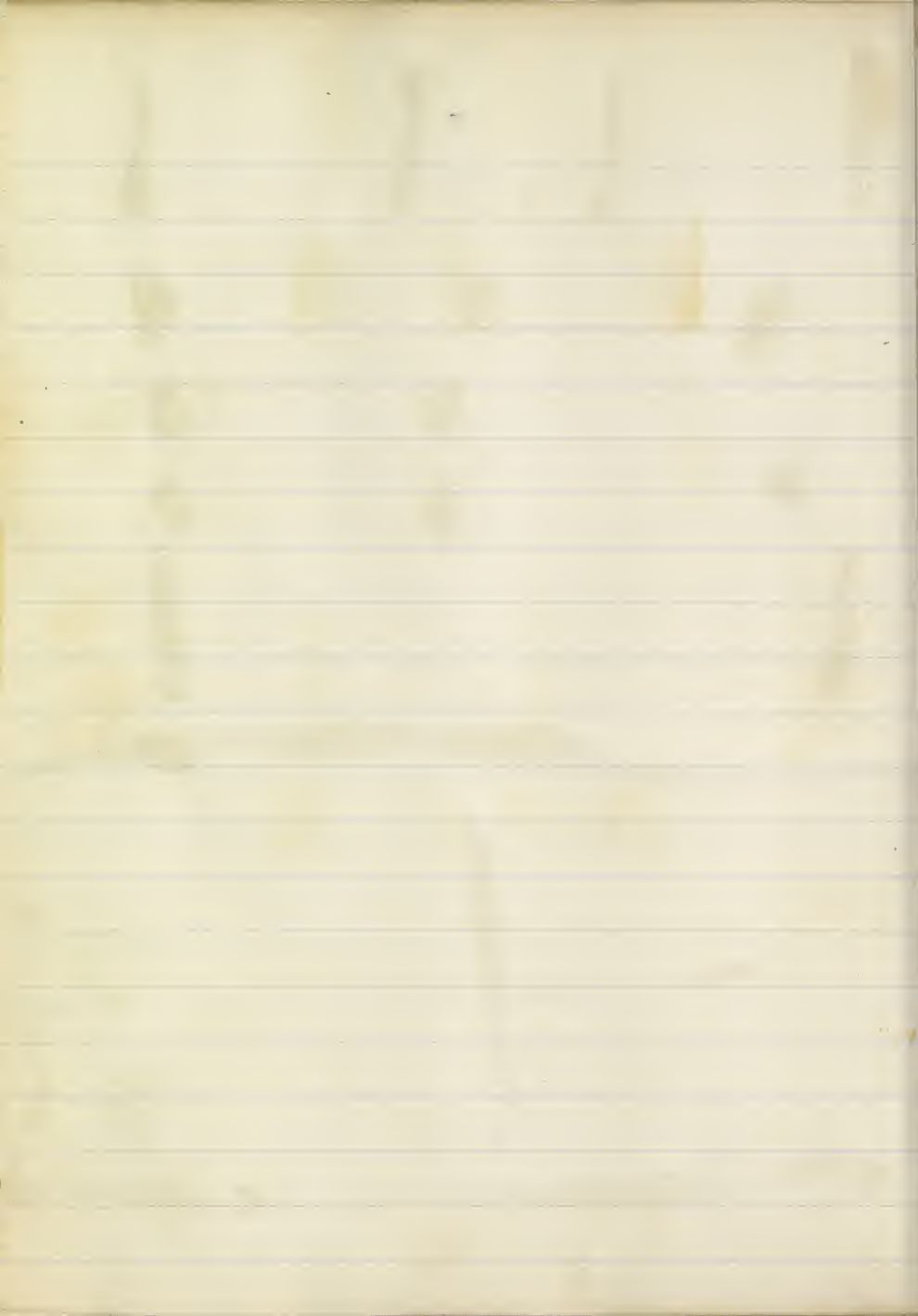
A

*Agrotis ypsilon* Hoffnagel. 55/20. Mac Combs









claw a dark  
foss to bear

*Agrotis leliana* Harris Mon 12. Har 14<sup>th</sup>. Riley Prairie farmer 19 p. 444. Black girdler  
Larva rustic Harris  
Great cut worm Riley or Black Cut worm of P. Tenn.  
Larva nocturnal & devour the stem & lower tender leaves  
in July & Aug (Mass)

Hab. Ma ba (Ill) Min. (Riley) Manitow  
Food Garden & herbaceous plants  
tobacco. Tomato corn &c (Riley)  
Maure (Rak)

2.00. I fore wings light brown shaded with dark brown along outer  
black edge & ven. female also in mid of forewings, divided nearly  
into 3 equal parts, by 2 transverse bands each composed  
of fine wavy dark brown lines, in mid 2 ordinary spots  
& a thin line spot reaching the anterior band, the  
exoceloid with dark brown & 4<sup>th</sup> of  
hind wings nearly white, semitransparent, shaded behind  
& brown with dusky brown dorsal brown or brown gray  
edge of collar blackish abdomen gray

80a

inermis inermis

*Agrotis inermis* Har. Nov. 12. Har. 14<sup>th</sup>. Riley 1<sup>st</sup> Rep. Mo. 72 pl. 1. 2. 3. 4.  
Unarmed Rustic Har.  
Variegated cut worm Riley  
Ios p. 98  
fig 2. coll of Mr. Sanborn  
Mass.

Larvae nocturnal. cut the stems & devour the tender leaves

L. destroyed  
by parasite *Exonesta leucanica* { Riley 2<sup>nd</sup> Rep. p. 50 Food Garden & herbaceous plants.  
militaris } " in cut 2, 1866. Food when young Apple Cherry Mulberry  
Peach and cut 1. 188 188  
Hab Mass (Sanborn)

*Agrotis inermis*

Eggs. "to the number of 50 deposited in a long belt on a twig of peach. Am Ent. 1. 188  
Lar. " when young have 10 legs but the two hindmost pair of abdominal prolegs are much  
longer than the 2 foremost. The worms have at that time the peculiarity of looping up the  
back when in motion like the caterpillar worm. they can also let themselves down by a thread  
when young. Thus for the most part in company on the leaves, but after the first moult  
they lose their looping habit, their legs become of nearly equal size they can no longer  
let themselves down by a thread. They now deposit. Oblique. How the true cut worm  
characteristic of hairy during the day, just under the surface of the ground & of cutting  
of vegetables. Am Ent. 1. 188

2.00. I fore wings light brown shaded in the middle towards  
darker margin with dusky brown crossed by 4 more  
or less distinct wavy bands each formed of 2 blackish  
bars, hind wings dusky spot, several blackish spots  
on outer thick edge of wing. hind wings nearly white  
in middle & area behind shaded with dusky brown  
dorsal & ventral sides doubly edged with black  
abdomen gray.

*Agrotis fumalis* Grote Bull. Buffalo Soc Nat Sc. 1. 98.

In p. LXVI. fig 6 for Coll of Mr. Grote

*Agrotis. muralis* Grote

Bull Buffalo Soc Nat Sc. 198.

Ins pl C XVI fig 17. for coll of Mr Grote.

*Agrotis norman* ~~ella~~ *cana*. Gr 84/23. can

*A. Saucia* see *mermis*

*Agrotis*? 94/33

*Agrotis* *pratensis* SV. 106/21.

Its fore wings generally dk ash color with only a faint trace of double transverse bands  
 the ordinary 2. 3. 4. small narrow anterior spot sitting oval & connects with the oblique  
 kidney shaped spot by a longitudinal black line hind wings dirty brownish white darker behind  
 head, collar & abdomen chestnut colored. 1.50 to 1.75

*clandestinus*  
 hidden or clandestine.

*Agrotis clandestina* Mor 42. Prairie Farmer vol 19 p 344 Riley 1<sup>st</sup> Rep Mo 79  
*Noctua* " Har p 448. Fitch to N.Y. Soc 1855 vol 15 p 527 pl. 1, fig 13.

*Mamestra unicolor* Fr. 2? *Graphophora lubricans* Walk G. P. S. P. 3. 535.

*Clandestine* Culet. Moth Har

1<sup>st</sup> Mottled Cut worm.

Lar when young subsist on a variety of grasses they descend into  
 the ground & reappear in the spring feeding at night or in  
 cloudy weather they drag their food under stones, or to places  
 of concealment & shelter. "has also the habit of climbing trees & shrubs  
 to cut off the buds of blossoming flowers in the evening

Pupa formed about July (Mass)

Is very abundant mid June to mid Aug (Mass) during the day lying hid in  
 crevices & chunks

Food Garden & herbaceous plants.  
 Wheat Buckwheat &c.

Hab Mass (Har) Md Va (F.)

Wild Onions *Chorizanthe sativa* Cori pumila  
 Peas Beans Cabbages &c Riley

→ *Agrotidae* destroyed by the flat Larva of a colorless insect  
 possibly *Phagus caliginosus* - Fitch 1855 p. 528

messor a reaper

*Agrotis messorica* Har Mor p 42 Har 444  
 Reaping rustle. Har Cochran's Poly. Fr cult

Fore wings reddish gray crossed by strong blackish lines  
 the 1<sup>st</sup> two upon the 1<sup>st</sup> are double the 3<sup>rd</sup> ordinary  
 spots & a 3<sup>rd</sup> oval spot near the middle of wing for-  
 ward with black hind wings whitish becoming dusky  
 brown behind & have a small central orange - head  
 & thorax rufous with gray collar edged with black  
 abdomen light brownish gray. l. 40 it murena

Lar Nocturnal, eat stems & devour the tender lower leaves

Pup formed underground.

Ins July Aug (Mass)

Ins p 69  
 fig 25 coll of M Walsh Minn

Food Garden & Herbaceous plants.

Hab Mass (Har) Illin (Walk)

*Agrotis nigricans* Linn. Fitch to N.Y. Soc. 1863 vol 23 p. 804 pl 4 fig 3.

Corn Cut worm

Ins p 50  
 fig 5. Ma.

Larva cuts off the plants of young Indian corn & other plants  
 half an inch above the ground by night & feeds itself under  
 the surface by day  
 p 50 fig 5. Ins. corresponds with Fitch's figure.

Food plant Maize &c

Hab N.Y. Fitch

*Agrotis*

Ins. sent in collect of T. C. Smal.  
 & taken in South Calif.

Ins. p 102  
 fig 6

*Agrotis* ~~carrea~~ <sup>carrea</sup>, Thurb,  
 (Swainsworth)

Ins. taken on Mt Washington N.H.

Ins p 94  
 fig 26 in coll of M. Barbour  
 Boston

(102)



*Agrotis* <sup>0<sup>th</sup></sup> *trivasa* *Linnaeus*

Ma 411/18

Somewhat resembles *Subgothica* above

83

*tessellatus*  
checkered or  
*tessellatus*

Larva cuts stems & feeds on the lower leaves Nocturnal in habits  
Ind July Aug (Mar)

Habit Mass (Habit)

[illegible]

Glossy cut worm Riley 178  
Eggs deposited in the autumn at the roots or near the ground  
they hatch in May.

Lar. continues in the Caterpillar state about 4 weeks cuts off stems feeds upon the lower leaves

Pupa far med underground.

Ins. appears about July conceals itself under bark or in crevices during the day & flies about Sunset. (Mass)

Food Garden & Herbaceous plants.

Hab Canada (Suunders) Mass. (Harris) Nova Scotia (Bethune)

*Agrotis cochraneii* Riley Prairie Farmer vol 19 p 414 (Packard 3076 Cochrane)  
 Dark sided cut worm Riley 1st Rep Mo p 74 Ins p  
 or *Cochranii*

1) *Diarsia seducta* cut worm. Riley  
 also *Cochranella*  
 2) *Cochranella*  
 3) *Colemanella*

Larva comes out of its retreat in the evening & climbs up trees  
 & feeds with wonderful agility & cuts off both blossom & leaf buds  
 one bud each year  
 Larvae appears only & August. Mo. Apple Pear Grazer. (Tuck)  
 Hab Mich Ind Mo.

*Padena chromopoda* Walk. (which resembles the one mentioned in Ind 2/95  
 but has not even taken to the same extent)

Ind 2/95

*redimacula* Mor  
Agrotis ~~tenebris~~ Gole P.C.S.P. V.F. 870, near Niznaya  
*Sphinx* Cui worm  
food & habit probably same as above

Atul ny? (79) Texas (note)

*Agrotis texana* Gr. *Pl Sp* 2. p. 273. pl. 6. fig 2 ♀

Insp. 79  
fig. 2. Grotes fig.

Ins pl 46  
fig 10

79/2 Gr. Lys (103)

*Agrotis cingulum* Linn 89/31

*Agrotis hians* Fr 87/1

*Agrotis* <sup>bill</sup> *incir* <sup>even</sup> ~~incir~~ Where?

*Agrotis sexatilis* Guen Bull Buffalo Soc Nat Sci. 1. 100  
♂ Ins pl CXVI. fig 13. from Coll of Mr Guen

of the wheel

*Agrotis tritici*  
*Agrotis tritici* Walk. subsp. n. GVR Tr. A&S 2. 78

four toothed

*Agrotis quadridentata* Grote P&S P. 4 p. 492. pl. 3. fig. 2 & 3.

Food & Habits probably the same as the other *Agrotidae* Ins. pl. 78  
 fig. 9 & 10 ♀ from *Agrotis* fig

Hab Colorado (Gr.)

cicatricoseus  
full of gashes

*Agrotis cicatricosa* Grote P&S P. 4 p. 492. pl. 3 fig. 4.

Food Habits same as above

Hab Colorado (Gr.)

Ins. pl. 78  
 fig. 13 ♀ from *Grote* fig

venerabilis

*Agrotis* <sup>sh</sup>  
*venerabilis* Doubled. Mor 42.  
 " *incollata* Walk. GVR Tr. A&S. 2. 78.

Food Habits as above

Hab Nova scotia (Nov.) Can. (Saunders.)

Ins. pl. 89  
 fig. 27. Coll. of Mr. Saunders  
 Canada

of the neck or  
collar

*Agrotis collaris*. GVR Tr. A&S. 1 p. 348. pl. 7. fig. 53.

Food & Habits as above

Hab N.Y. (GVR.)

Ins. pl. 91  
 fig. 3. GVR fig

jointed or knotted

*Agrotis geniculata* GVR Tr. A&S. 1 p. 349. pl. 7. fig. 54 &

Habits food &c. see above

Hab Pa. (GVR)

Ins. pl. 91  
 fig. 4. GVR fig

repus, unexpected  
or unnoticed for

*Agrotis repens* GVR Tr. A&S. 1 p. 350. pl. 7 fig. 55 &

Habits food &c. see above.

Hab N.Y. (GVR)

Ins. pl. 91  
 fig. 2. GVR fig

*Agrotis muraenula* GVR Tr. A&S 1 p. 352. pl. 7 fig. 48 &

Habits food &c. see above

Hab N.Y. Rhode Island (GVR) Can. (Can Ent. 1. 86)

Ins. pl. 91  
 fig. 1. GVR fig

*Agrotis violaria* GVR Tr. A&S 1 p. 352. pl. 7. fig. 59 &

Hab. Pa. (GVR)

Ins. pl. 91  
 fig. 3. GVR fig





*Agrotis scandens*. Riley 1<sup>st</sup> Rep. No. p 76. pl. 1. fig 56, 7. Inst. p. 100. 87  
Climbing cut worm & Rustic. Fig 10 fm Riley  
Larva at night ascends trees & shrubs to cut off blossom. Fruit & Forest trees  
Hb. M. Mo. Ill. Ind. Mich. } Leaf buds. Lar. destroyed by *Arma spinosa* & *Geophis inaequalis* Riley.

*Agrotis*

*Lar* found on Cotton Geo. Lep  
near root. *L* re 6  
fig 18. Geo.

Виз: Geo

Good plant Cotton

Agrotis ?

Larv found on cabbage near the root. Larv  $\frac{6}{16}$  Ma  
Ma, Oct.

Gal. Md.

*Agratis ochroleuca* Lenzner

Ins pl 46  
fig 8. Ino.

Agrotis. ?

In pl 53  
fig 9. Mo

*Agrotis*.

Ans  $\frac{50}{5}$  Ma

Has Md.

Canada  
Saunders.

*Agrotis spidiæ* {*Tuen* } *A. laici* {*Tuen* } *A. obscuroides* {*Tuen* } *A. ferrica* {*San* } *A. notata* {*Mack* }  
                   "       *Mon* }                   "       *Mon* }                   *Mon* }                   *Mon* }  
*A. ornata* *Mack*       *A. neticens* *Mack*       *A. imbricata* *Mack* *A. inornata* *Mack*.  
*A. illata* *Mack*.       *A. obelica* *Mack*.

σπηλαιον a cave  
 οὗτος εαν.  
 καὶ οὗτος τῶν

*Spaelotis* Bds. *varius* Mein. *herk.* Saunders *Caw.* Mar 40  
*Spaelotes* Mor Cat. 40.

Hab Can. Saunders.) My. (Mor)

Top fine  
Giddis friends

*Spaelotis pyrophila* new. Mar 40 Summit Canada.  
*Spaelotis* new

Hab Nova Scotia. (Mor) Can (Poundus)

*S. acetosa*

Striped cut worm.

7313.

cuts off plants about 1/2 inch above the ground  
buried itself but slightly & may sometimes be found  
with half the back exposed even tho the sun may  
be shining. Sometimes draws the several legs out  
as how to devour during the day.

Corn & beam. feet

body whitish or pale smoky, with darker brown  
stripes 2 along the back & 3 broader stripes each side  
belly black (larger than in preceding species)  
head smoky yellow.

Faintly und cut worm. 7312

It buries itself, but slightly & sometimes crawls its  
 foot into its hole, when the stem has been severed  
 to devour during the day. \*Cabbage & Onion

♂ dull brown with very faint longitudinal lines  
 & polished dots but little darker than its general color  
 Head smaller yellow.

Fitch p 313 mentions the following cut worms of which he did not know the Imagines

Red headed Cut worm

Lar. pale dull brown without  
any stripes cuts maine  
slightly below surface of  
ground &c

White cut worn. 7813.

Smaller & occasionally found amongst  
rare. Penn. Blaine

1.00. I dull white black dots & no stripes or lines except a row of very faint brownish touches along upper part of each side, head smoky yellow.

Black headed cut worm or Black worm. 7313

I cut off the stem slightly below the surface of the earth & drawing the severed stem into the hole where it buries itself feeds upon it during the day.

♂ dull dark brown with faint traces of pale lines -  
head dark black.

*Neritua bicarnea* <sup>9<sup>th</sup></sup> *Lentia* 23 ann. R. H. S. C. C.  
 nat. no. 2. 62

*Graphiphora* (Lahui) Hab. Belim Can Ent 1. 86.

Hab Can. NY. (Can Ent)

*Graphiphora* *marginatus* Guen Belim Can Ent 1. 86.

Hab Europe & Can. (Can Ent)

black C.

*Graphiphora* C. *nyctum* see *Agrotis subgothica* p 103.

1/2 sps as style for unclis.  
pops blowing  
baja?

*Graphiphora* (Ochs) *baja* (Imel) Mor 41

*Neclata* Linn

Hab. not common Can (Saunders) Md (JG) NY Europe (Mor) Ins pl 60

fig 24 Md.

note "Specimen much redder than usual" Saunders notes

*Graphiphora* *angus* Fab. }  
Mor }

*G. lubricans* Guen }  
Can Saunders }  
Nova Scotia Belim }

*G. hoxa* - n.a. Guen }  
Nova Scotia Belim }

Can }

*G. succinea* Walk }  
Nova Scotia Belim }

Canada  
Saunders  
angus an angus  
20th Aug

all the following (*Noctua*) belong to genus *Graphiphora* of some authors Grote PESP. 3. 524

*Noctua* (Linn) *alternata* ♀ Grote PESP. 3. 526. pl 5 fig 8.

Ins pl 43

fig 27 coll of M. Wiedemann

*Graphiphora*

Ins pl 80

fig 2. fm Grote fig

Hab Mid St (Gr) NY (Saunders)

*Noctua* *brunnea* Guen Mor 0.

See above under *Graphiphora*

*Mamestra* *plagiata* Walk. G. 182. 70.

*Noctua* *brunneicollis* ♂ Grote PESP. 3 p 524 pl 5 fig 5.

*Graphiphora*

Ins pl 43

fig 25. NY. coll of M. Wiedemann

Hab Mid St (Gr) (allied to *agrotis claudens* Gr.)

Ins pl 80

fig 1. fm Grote fig

A *brunnea* of England is known in the purple clay of Newman 388 feeds on willow.

*Noctua* *cupidea* ♀ Grote PESP. 3 p 526. pl 5 fig 7.

*Graphiphora*

Ins pl 106

fig 19. fm M. Saunders

Ins pl 80

fig 3. Grote fig

Hab Mid St. (Gr)

"resemble description of *Graphiphora expansa* ♀ & *juvencus* Walk. (Grote)

*Noctua* *vittifrons* ♀ Grote PESP. 3 p 527. pl 5 fig 6.

*Graphiphora*

Ins pl 84

fig 4. fm Grote fig

Hab Colorado. (Grote)

note "With *Noctua picta* Linn & *N. ochrogaster* Guen belonging to *B. arduus* genus *Chrosotis* (*Ochnopleura* Hübn) it is a more robust & darker colored species than these & with them cannot be generically separated from the other species of the genus *Noctua*." Grote PESP. 3. 528.

*Agrotis* *Ochs*

*Ochnopleura* (Hüb) *plecta* Linn Mor. (*Ochnopleura*) 41

Ins pl 53

fig 15. Md

*Noctua* *plecta* (Hüb) *plecta* Linn Mor. (*Ochnopleura*) 41

*E. curvatus* (Burr) *plecta* Grote PESP. 1/2 18.

Ins pl 74

fig 18. coll of Ent Soc Phil.

Hab Can. (Saunders) Md (JG.)

food Ladies bed straw & aspen (Newman 385)

very similar in appearance to *Noctua vittifrons* see note.

apex pale or light yellow  
thru. side or red.

p. plecta  
to black plecta



*Orthona ralla*

lar when young with a white line on back & pale yellow line on each side when larger with white lines by surface speckled with white dots  
 lar gray with rusty fore wings near the middle with a faint round spot, behind it a kidney shaped spot blackish gray margined with a whitish line, the space between the spots nearly near the hind edge is a rusty transverse streak in the middle, a rusty spot upon anterior spots straight) & one on inner margin

instabilis  
 incassatus.

*Chrosida* (Cels) *minutaria* ? Schiff. n. Mor 41

Lar. when young green with white line upon back & a pale yellow line on each side when larger it has fine white lines & is freckled with white dots  
 Ins. (M.) found clinging round the wounds made in sugar maple bark like *Dep.* both larva & moth are extremely variable

Orthosia palpi nearly horizontal thorax robust not corded  
 antenae pediform or clavate in 8 wings slightly deflexed  
 fore wing elongate W 33

To N.Y. Soc. 1856. vol 16, p. 263

Ins. pl. 67

fig. 76 coll. of Mr. Saunders house (P. not like 114)

of *instabilis* var

Good plants Oak, Apple, peaches. (7-100)

Ins. pl. 61

fig. 74 coll. of Mr. Saunders house (P. not like 114)

of *instabilis* var

Good plants Oak, Apple, peaches. (7-100)

*Pyrrhia* exprimens Walk

Ms. J. 61/4.

*Tamocampa alia* Guén Mor 41

Larva stripe  
 xajm m caterpillar  
 (after *Orthosia* Morcat.)

Ins. 84 Ins. fin coll of  
 3. Mr. Saunders Can

Exanth  
 scroches on larva

*Terastia* Guén *exusta* Guén see *Mamestra picta* p. 101.

condens  
 Guén

*Orthosia* Guén *infrima* Guén

*Orthosia* (Guén) *condens.* Guén. Mor 30.

67/7 Ms

Hab Canada (Saunders) NY (Mor)

*Terastia* (Cels) *anonecloides* Guén Mor 41.

Hab NY (Mor) Can. (Saunders)

*Lanthia cerioga*? of Sprague coll. Mor 0  
 cerioga? of Newman. 375.

Ins. fin coll of Mr. Sprague Boston.

Ins. pl. 106

Ins. pl. 106  
 fig. 20. coll. of Mr. Sprague.

note there is a X silage of Guén can this be it? Hudson Bay Mas.  
 X. Ceraga of Eng. feeds in spring on catkins of Malice & afterwards on other plants Newman. 375.

*Lanthia* (Cels) *ferrugineoides* Guén Mor 28.

Ins. pl. 48

Lar feed on Tick Trofoil *Dactylidium canescens*. (auth Riley)  
 Ins. taken in Canada as late as 29th Nov. (Beltrami Can Ent 1. 47)

Hab Md. (F)

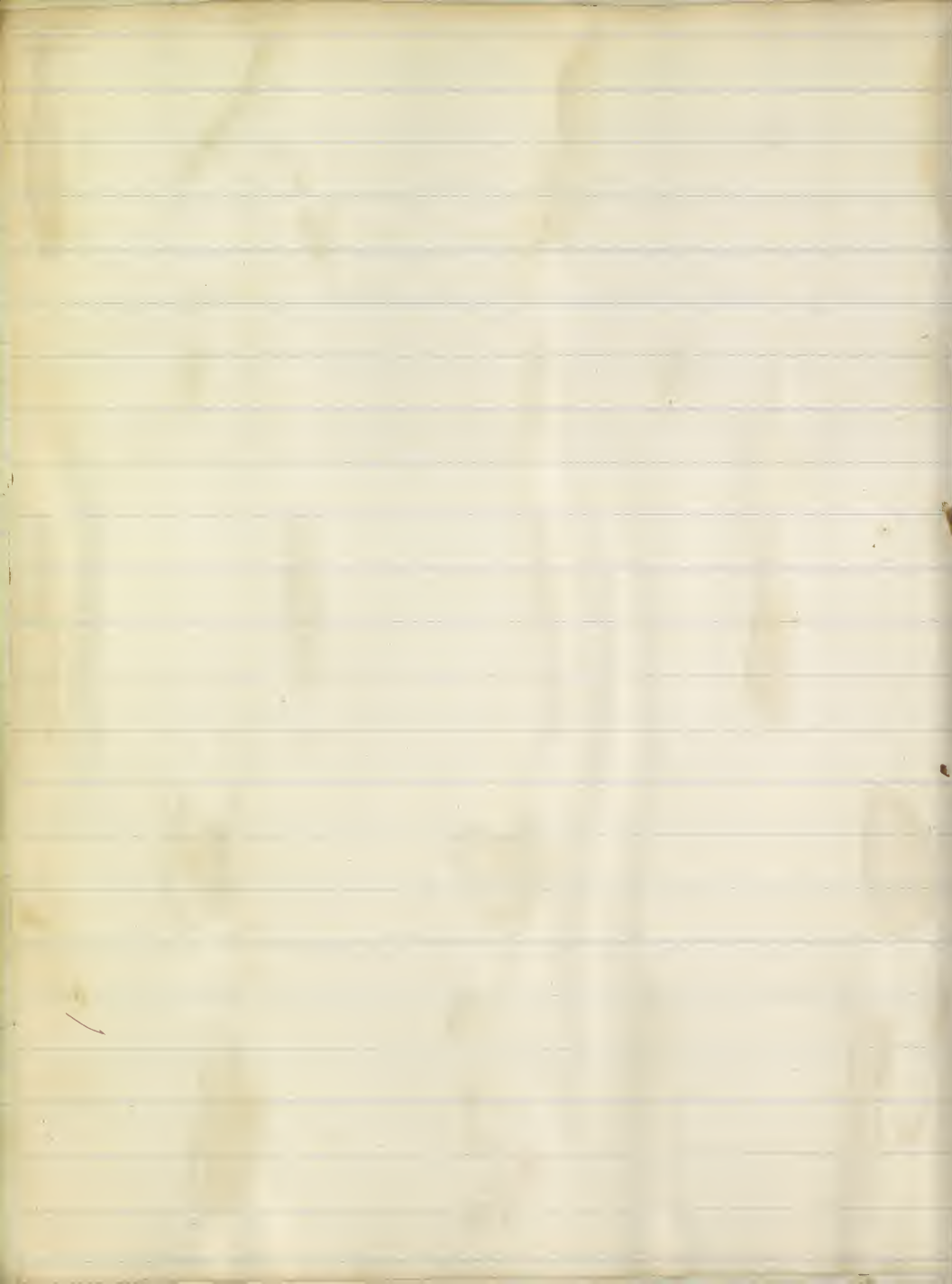
Good plant Tick trofoil (Riley)

*Lanthia ferruginea* Hüb Can Ent 1886  
 an European insect the larva of which is said to feed on buds of Poplar.  
 not *usomman* Can. Ent. 1. 47

*Lanthia ralla* GFR To A.E.S. 1 p. 246. pl. 7. fig. 498

Hab atlantis dist. NY. (GFR.)

Ins. pl. 91  
 fig. 7. GFR. 19



*Canthia* *puter*. GHR Tr & ES. 1 p 347 pl 7 fig 50. 3

Ins pl 91  
189. fm GHR fig

Hab NY.

distinguished from *H. ralla* by its dull purple red or rufous color } (GHR)  
darker secondaries &c.

*Hamphs. bicolorago*, Guen.  
is *Canthia spruceana* = Walth. } Mor (Poub?) 28.  
GHR Tr & ES. 2. 78. }

*Palpacia walk.*

Hab Can (Mor. Saunders)

*Euciroecia* (Guen) *praeputia* Guen  
*Cyrracelia* Saunders list

Ins pl 52  
fig 18 Mnd.

Hab NY. (Mor) Md (ES) Can. (Saunders)

105

### Hudonidae Guen.

93

By a seam or 3  
subur.  
foster brother

*Raphia* (Hul) *grater* & *Grate* P&SP 2 p 435 pl 9. fig 7.  
*Raphia* Mor 37  
*Saligonia personata* Walth. GHR Tr & ES 2. 86

Ins pl 79  
fig 5 Grater fig.

Lar. light green with subdorsal reddish stripes (Gr)

Feeds on Silver-leaf poplar

Hab Mid St. Brooklyn Ld. (Gr)

Food Plant. Silver leaf poplar

Shows some affinity to the genus *Lophocera*, its position under the present  
fam. (*Helodonitina* mentioned) is in accordance with the classification of  
St. Thome Schaeffer. (Gr P&SP. 2. p 337.)  
placed by Mor just before *phlegophora*.

abrupt

*Raphia abrupta* Grate P&SP. 2. p 336. pl 8 fig 32

Ins pl 79  
fig 6. fm GHR.

"resembles *R. hyalina* Hüb but differs" Gr

(in Coll. Ent. Soc. Phil)

Not flame  
poros bearing  
anterior?

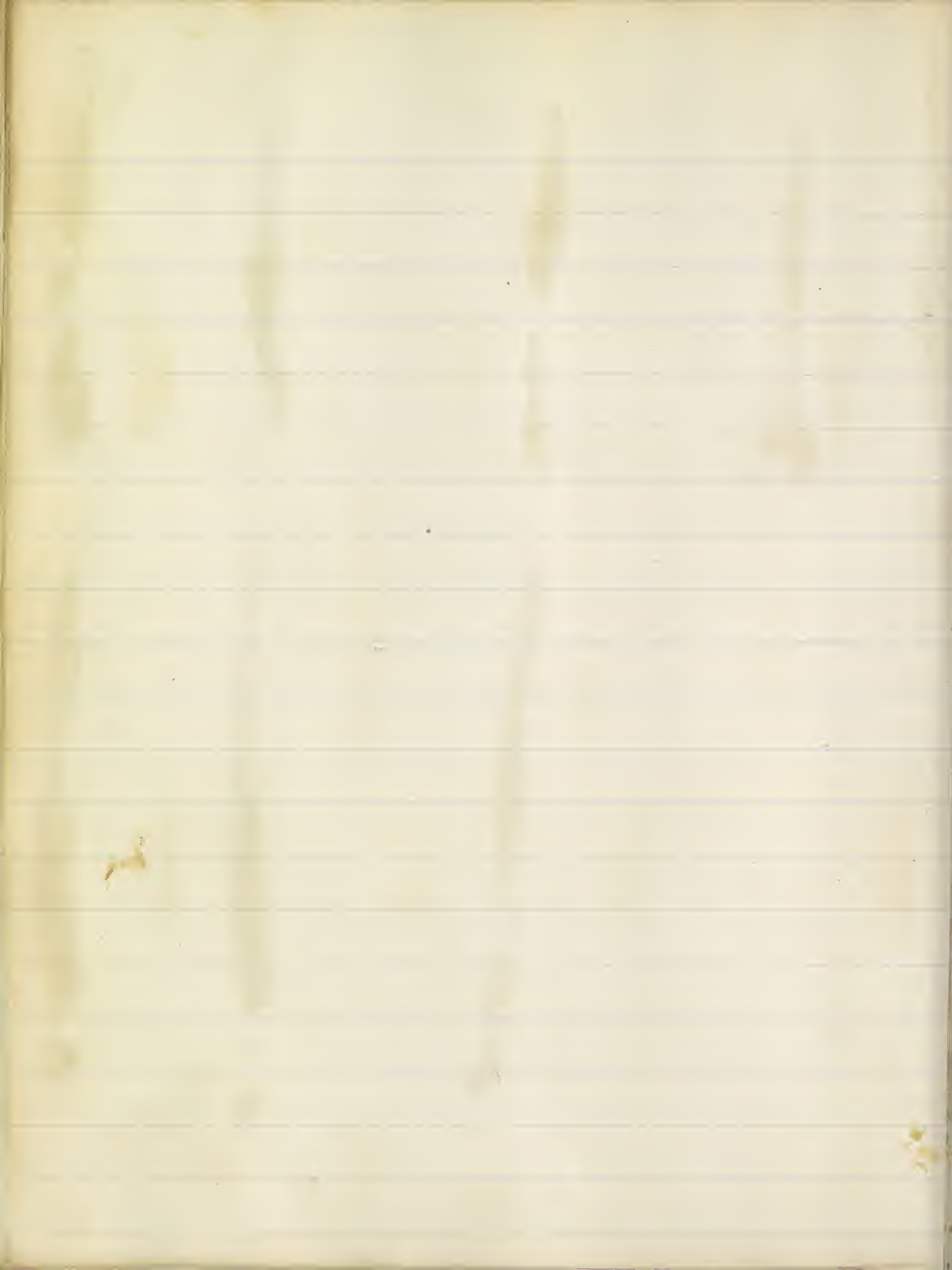
*Phlegophora* (*Odontophora*) *fulva* Mor & B. *fulva* Mor & B. 12/12  
*Trigonophora* G. *cruciatum* Gr

Ins pl 82  
fig 11. coll of Mr Saunders  
Can.

Hab Montreal Can Not common (Saunders) NY. Mor Nova Scotia (Bellman)

104





in the section

*Phlogophora iris* (Guén) Mor 37. Bethum. Tr Nova Scot. Inst 2/89.

In pt 55  
fig 17 Md.

Lab N.Y. (Mor) Md (G.) Toronto Can not common (Saunders) Nova Scotia (Bethum)  
Phlogophora one of in England known as the Angle-shades moth. Newmar 162

particulates  
dangerous

*Phlogophora perichnisa* (Walk) S. Mor (Lambert)

Hab N.Y. (Mor) Can Saunders.

? *Euplexia* (Steph) *lucipana*. Guén 2. 63. Mor. 37.  
N.Y. Eurais (Mor) Md (G.)

In pt 60  
fig 14 Md.

*Polia* (Göt.) (*Polychromis* Bth) *herbaria* Guén 2. 75. Mor. 37.

In fm coll of Mr Sanborn Man.

In pt 100  
fig 18

between *Euplexia* & *Eurais*. (Mor)

see *agrotis*

well. psw to flow

later fluid as ?

water or more

{ *Mamestra*  
*Eucaris* *Hüb* *lutea* (Guén) Mor 38.  
*Agrotis* *domestica* Walk. G.M. Tr A.S. 2. 78.  
*Polia* *Freitz* Mor cat 38.  
*apileta* Guén  
Hab N.Y. Md. (L.)

In pt 43  
fig 16 call of Mr. Mendenhall N.Y.

In pt 49  
fig 9 Md.

I. 54/1

*Agrotis* *lutea* Guén June 12. 1882. 1882. 1882.  
Rep. M. S. Can. Inst. 32.

to 106 3/4 3 1/2 82. fig 5.

In pt 49  
fig 8 fm Göt. fig

Hab (Pa) Göt.

(105

*Eurais* (Köt) *nimbosa* (Guén) 2. 77.

In fm coll of Mr Sanborn Man.

In pt 106  
fig 22.

Can. Eurais (Mor)

104

94

Eurois

Hub Md.

~~Ino~~ ~~x~~ ~~y~~ ~~z~~ ~~w~~ ~~v~~ ~~u~~ ~~t~~ ~~s~~ ~~r~~ ~~q~~ ~~p~~ ~~o~~ ~~n~~ ~~m~~

Canada Punders.  
herbaceous  
full of gran or berries

*Eumia herbida* Lin G. Sharp } *E. occulta*. Quon. }  
Can }  
*nova scotia* (Betham) Mur } Mor }

Embryo }  
Grown }  
Mort }

before Garza's in  
new cut.

*Polyphaenis* Br.  
*Pollia* Och.

*Taeniocampa* Har cat 10<sup>1</sup> 2000 on 164XXIV. /3. rare.



*Hadena badistriga* Grote Lintner 23 Ann Rep  
ny S cab. 68.

*Hadena auranticolor* Grote Bull Buffalo Soc. nat Sc. 1. 109  
Ins. pl CXVI. fig 7. fm Coll of Mr Grote

*Hadena Brughani* GKR.

*Hadena fractifera* Gr 88/27 Can.

*Hadena gemina* var *remissa* Hub. 88/31

*Homohadena badistriga* Gr CXLIX

*Hadena chalcidoma* Hub 88/2

*Homohadena badistriga* Gr 89/35 Can.

CXLV *Hadena* Schj Beauv.?  
 " *Manastra devastator* (Brauer?) Aug  
 LX Lintner 23 Ann Rep. ny S cab. nat hi 62

Hadena. male moth without any feathering to antennae as in Agrotis. Fr Ent 1.85

Hadena (Trits, distincta Guen GVK Tr AES 2. p. 147 pl. 3 fig 72.8

Uchata vulgaris distincta Hüb

Hadena distincta Guen & Walk.

Hab Atlantic dist. GVK

Hadena chenopodii. Walk Fr Ent. 1.85  
May 24 Ins. ~~Fr Ent. 1.85~~ Allen

97

Ins pl 99  
fig 4 fm GVK fig

Hadena vulpuncta GVK. Tr AES 2. 198. pl 3 fig 71.8 Riley 1<sup>st</sup> Rep 84  
Speckled Cut Sworm. Riley Pl. 1 fig 14.16. Ins. pl 99

Hab Mo. Tr Atlantic dist. GVK. Ins. pl 99

Lar. lar. conceals & matures during the day

Food Plant. Cabbage. Ins. pl 99

2 figs simple  
motelus shabby

Hadena (Chs) melicoides (Guen) Mor 88

Ins pl 55  
fig 4 ma 10 ma.

Hab Mo common (88)

xylemum  
cotton  
aka Xylema

Xylema. Gr Cor

Hadena xylemoides (Guen) Mor 88. Can Nat 2.24. Bethum Tr Nov Scot Ins 2/52

Hadena xylemum Walk. GVK Tr AES 2. 74.

Xylema contraria Walk. GVK Tr AES 2. 70 & 78.

Ins pl 55  
fig 13. Ins. fig 8 ma.

Eggs hatched (London Can) 24 June  
Lar. nearly full grown 3<sup>rd</sup> July (Can). Lar. Aug 24. 24

♀ appears August

Hab Mo (88) Can (Saunders) Can Nat 2 p. 24

Lar almost omnivorous but fed on  
Hawthorn. Lar. 1st quarter 4. Scabious (Can Nat)

Hab Nova Scotia (Bethum) & pupa formed in a rough outer case of leaves fastened to the box by silken threads. Can Nat  
2<sup>nd</sup> July (Can)

amputator

Hadena ampulatrix Tsch see Mamestra arctia p. 101

Hadena amica Har see Mamestra arctia p. 101

Canada Saunders

Hadena chenopodii Guen }  
Mor }

Walk. Fr Ent 2. 194

H. tenuifera Walk.

{ 2<sup>nd</sup> contenta Walk. }  
{ Ins. pl 99 }  
{ is struck out of Can Nat. Bethum Can Ent 1/97 }

larva beautiful  
xantho caterpillar  
with white anast.

Xylemidae Guen.

Catocampa (Hüb) ~~catocampa~~ (Hüb) 1878.

Ins. pl. 65  
fig 25 coll of Mr Saunders  
Can.

Can rare (Saunders.)

Ins. pl 82  
var. fig 24. coll of Mr Saunders  
Can.

larva bright orange  
xantho caterpillar

Forocampa dictaca Mor 8.

Insect sent by Mr Saunders of Canada where he  
writes it is not common

Ins. pl 82  
fig 20. coll of  
Mr Saunders

Hab Can (Saunders)

*Xylina cinerea* Riley. *Annals Ent. Soc. Am.*  
1881, vol. 1, p. 63.

Cviii/17

1 *Xylina cinerea*. Wb. Riley 3<sup>d</sup> Rep. 135. Ash gray *Junco's* Riley

L. feeds on foliage of Apple poplar. Hickory & apple more Red bud.

Shores into fruit of Apples & Peaches. I also found hedges in  
feeding upon Gall. *Quercus Spongifica* May & June.

Ins Sept. or Oct. but sometimes does not appear until the following April

L. pale green with cream colored spots & broad cream colored lateral

band.  
Ins. cold ash gray upper wings variegated with darker gray Ins 108

erroneously *Celaena oblonga* of Speyer does Mrs. (Lentini)

17 Riley

98

*Xylina*

Am Ent 2. 245

L. pale green with cream colored spots & streaks  
of a broad cream colored lateral band  
found inside a peach & found also in Apples  
peaches & oak galls on hickory &c  
never does much damage to fruit  
Moth ash gray & undescribed

Hab. Ill.

*Eulirios*. woody or  
like wood.

*Xylina* (Cass.) *bellumii* GVR In AEB. 1. 357 pl 7 fig 56<sup>3</sup>

Ins. fig 66  
fig 27

*bellumii* *bellumii*

Ins taken Sept & Oct. Can. *bellumii* }  
(Can Ent 1. 86)

Ins pl 91  
fig 15. G & R fig.

cell of  
Mr. Sanborn  
Boston.

Hab. N. Can. Long Island (GVR)

(note just before graphophora mor 40.)  
& between *antenna* & *acutella* *bellumii* Can Ent

*Xylina capax* GVR In AEB. 1. p. 355. pl 7 fig 57<sup>2</sup>

Hab. Pa (GVR)

Ins pl 91  
fig 12. GVR fig

*concolor* *concolor*

*Xylina contraria* Walk. Mar (Doubt?) 40.

Hab. Can. Saunders

striate out of Can. Dist. *bellumii* Can Ent 1/17

(106)

*Eulirios* wooden.

*Xylina* *obliqua* *contraria* (R) *infructuosa* (Hb. signosa (Nth St.) Green Mar 40  
see also p 106.

*Xylina p. longicincta* (W. P.) Lenth 23 Ann Rep  
1945 Cal. Nat his 63.



*Cucullia convexipennis* Gr Rob. Lintner 23 Ann Rep

NyS Cab. nat hi. 63. 81

On Solidago } lateral broad stigma yellow broken  
transversely into lines



6047

*Cucullia intermedia* Lintner Ann Rep. Ny State Cabins 1869. 81

Lies on Burdock lying concealed  
during the day & coming out to feed at night  
pupa formed in a ball of earth interwoven

J. C. XV

19 Lintner. Cal with silk

*Cucullia intermedia* Spizer. Lintner 23 Ann Rep

NyS Cab. nat hi. 63. 81

from Burdock. 1st Lintner figure 5 pl 8  
"Lappa officinalis"

Lar. pl 98  
 { Pg 16. Golden Rod. Comed.  
 authority Lintner

*Eucullia* (Chs) *asteroides* Guin Bethun Fr Nov Scot Inst 2/82  
*Eucullia* Mor 4

*Cucullia* Larva of a green color feed on Aster July Can  
P. named July 30.

(Var) Insp 60  
19 19 Md.

ture. Ins pl 87  
fig 9. call of Mr  
Sunderland Cur

L. pl 109 Lin. nalu  
fig 10 { on authority of  
Mr Lintou  
Prod Ragweed (LG)

*Eucellia* ~~intermedia~~ *umbroscia* <sup>Gunn</sup> <sup>of</sup> <sup>Grates</sup> Coll. The shark moth new man 436  
Mon O. J. Saunders list

Lar pt 49  
fig 20. fm Mr Lintners  
original colored drawing  
Ins pt 65  
fig 21. coll of McIlhennore  
Mass.

The Larva figured was taken from an <sup>original</sup> coloring by Mr. Leinweber Albany & kindly sent by him. to be figured here

Hab. Mass (Larson) Can. (Saunders) In nocturnal feeds. Food plant Burdock

food plants *Lactuca* *Saururus* } *Humulus* *Lappa major* (Linn.) *anth.*

*Cucullia* *intermedia* *Speyer*  
*intermedia* *Lucia* *Mor.*

Ins per \$2  
 5. Call of Mrs  
 Saunders Case  
 115/19

*Cucullia chamoillae* Fab. } *C. florea* Guen. }  
Mey. }

*Crambores (Guén) talidiformis (Guén)* Mar 42.

XLVI / 6 My  
~~LXX~~ LXIX / 23 He  
Invs per \$12  
Pg 10 Call of Mr  
Saunders Can.

*London Can. Rare (Saunders);*

*Platyedra Platyedra atriciliata* Gr. XLVII/7. Ny



"opie confines Agan.  
Bordering on or  
forming a boundary.  
San. guen. coos

*Onia (Liger) sanguinea (Liger)* Mor 42 Guen

ala a wing  
gaura a plant

*Alaria (Prostwood) gaurae* SGL. Gr PEST 3 p. 4. Duncan Nat Lib pt 24  
*Rhodophora (Guen) gaurae* Hüs SGA pt 99 Mor 34  
*O. malivora* Hüs Gr.  
Clouded crimson moth SGA

L. pinkish with a brownish black line  
on each segment below latest line white.  
no white spots a brownish brown mark  
shaded above from near tip, edge also  
brownish pink under wing white with edge  
also of shaded brownish pink.

Larva went into the ground 30 Aug (Geo)

Lar. pt 10 30 pt 66  
fig 5. fig 7. fm SGL.

Ans appeared the following season 9th Aug (Geo)

*Alab. Lige (SGL)*

Food plant *Guara bicinnis* Lga.

*Alab. Lige* golden pleasure

*Alaria volupia* Fitch Tr Nylg Soc. 1867. vol 17. p. 908.

Hab. SGL. For. west of Arkansas

In in Fitch's coll

*Rhodophora* Guen Gr cor

floridus  
gay or bright

*Alaria florida* Guen Gr PEST 3 p. 4. M. Can. Ent. 2 p. 6. & 37.

*Rhodophora* " " Mor 34  
Flowering pomegranate moth Fitch 1867. p. 900. Tr Nylg Soc. vol 27.

Sp. pale green 16 footed worm with 2 dusky green stripes & 2 dull cherry red spots on tip of neck. In rare instances the anterior end of the lateral stripes also dull cherry red.

Larva eats holes in the flower buds of Evening pomegranate

& cuts the petals asunder. (Fitch) Pupa formed under ground. F.

In taken in Maine July (Saunders)

Hab. Can. (Can. Ent. 2 p. 37) {where also a smaller larva is mentioned feeding

Hab. Fla (Fla) {on the *Cnethora* also. in Saunders coll.

{ Larva pt 14 fig 16. answers to Fitch's description. Mostly fig.

{ It was taken in Est. Fla. on *Wild Cnethora*. 1867. p. 908.

In pt 107

In pt 56

fig 6. coll of

fig 19. Florida St.

Mr. Saunders Can. L. pt 14

Florida St.

wood plant

1867. p. 908.

{ *Cnethora* Saunders

{ *Cnethora* Saunders

{ *Cnethora* Saunders

{ *Cnethora* Saunders

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on a scale  
which many  
frequently are required

*Lipipolys (Guen) perscripta (Guen)* Gr PEST 3 p. 4. Mor 34.

Hab. Fla (Mor)





*Chloridea* (West.) *rhexia* Sm & A. Grate P&S.P. 3 p 4.

*Aspila* (Guén) " Mor 35. S&A pl 100. Guén  
Tobacco bud worm match S&A.

Lar spun a web in the ground. 25 July & 28<sup>th</sup> Aug  
Insect appeared 9<sup>th</sup> Aug & 18<sup>th</sup> Sep. (Gro,

Lar pl. 20  
fig 11 S&A  
Ins pl. 66  
fig 3. S&A.

Lar green with pink sparsely on a yellow whitish longitudinal line } Food plants Deer Grass or Meadow beauty  
D. upper wings green with 3 transverse or oblique lines of a } (Rhexia virginica) & Tobacco (bud)  
lighter color. under may whitish shaded near the outer margin

note although diligently searched for in the Tobacco fields (Md) not found.

undersides flavous  
grayish green,

*Chloridea virescens* Fab. Gr. P&S.P. 3 p 4  
*Aspila* Guén. Mar 35

Hab East Ind. Mor

*Chloridea sulplex*. Guén Gr. P&S.P. 3 p 4  
*Aspila* " Mor 35.

Hab Can. (Saunders)

? larva,  
undersides a fair  
on marked

*Famila* (Guén) *nundina* Drury Mor 0 Gr. P&S.P. 3 p 4  
*nigrivena* Hdw.

*Famila* Walk. *nundina* Drury. Mor 35.

Ins pl. 20  
fig 24. 25 Md.

Hab (Md.)

? larva  
hemetta

*Leximia* (Walk.) *hemetta* G&H Gr. A&S. 2. 119.  
*Philomina* Grote. Gr. P&S.P. 3 p 3 & p 54.

Insect taken at noonday on leaves of plants Aug.

Ins pl. 67  
fig 1. Coll of Mr. Sauborn  
& Man

Hab Md (Dr Morris) N.Y. East-S. (G.R.) Mass (Sauborn)

stellatus full of  
stars

*Lemmonia stellatus* Doubled. Mor 30

*Antipraxis* not order of Sp. *Jaguaria* 2 mortua 3 *Pacharditis nobilis* 5 *lynx* 6 *brevis* 7 *spargus* 8 *arifera* 9 *marginalis* Gr. P&S.P. 3. 531.

as if flower  
dixia house

*Anthracis* (P&S) *arifera* Guén { Grote P&S.P. 3. p 541.  
" *arifera* Walk. { Grote P&S.P. 2 p 340 pl 6 fig 3.  
Mor 34

as if an arch low  
fence bearing

Hab N.Y. Long Island. (Gr)

Ins pl. 74  
fig 16. from Grates fig

short

*Anthracis brevis*. Gr. P&S.P. 3. 530. pl 6. fig 4. 5. Mor 0. ? Ins pl. 67  
fig 8 Coll of Mr. Sauborn  
& Man.

Hab Color (Gr) ? Man (Sauborn) ? Md (G)

affin? Ins pl. 77  
fig 20. Ma

Ins pl. 80  
fig 15 & 16 & 17 & 18 & 19 & 20 & 21 & 22 & 23 & 24 & 25 & 26 & 27 & 28 & 29 & 30 & 31 & 32 & 33 & 34 & 35 & 36 & 37 & 38 & 39 & 40 & 41 & 42 & 43 & 44 & 45 & 46 & 47 & 48 & 49 & 50 & 51 & 52 & 53 & 54 & 55 & 56 & 57 & 58 & 59 & 60 & 61 & 62 & 63 & 64 & 65 & 66 & 67 & 68 & 69 & 70 & 71 & 72 & 73 & 74 & 75 & 76 & 77 & 78 & 79 & 80 & 81 & 82 & 83 & 84 & 85 & 86 & 87 & 88 & 89 & 90 & 91 & 92 & 93 & 94 & 95 & 96 & 97 & 98 & 99 & 100

*Syngnathus thoreauii* ♀ Grote Bull Buffalo Soc. Nat Sc. 1. 115.  
Ins pl CXVI / 4. coll of Mr Grote

" hirtella  
hairy

*Anthracia hirtella* G. & R. P. E. S. P. 6. p. 20 pl. 3 fig. 3A

Hab Rhode Island (G. & R.) Mau (Sanborn)

In pl. 67  
fig. 4 coll of Mr Sanborn Mau  
In pl. 78  
fig. 12 from G. & R. fig

jaguar

*Anthracia jaguarina* (Guén) Grote P. E. S. P. vol 3 p. 4 vol 3 p. 528. 4 vol 2 p. 342 pl. 9 fig. 11 Mor. 34

In taken on flowers Aug. Colorado. Ridings

In pl. 76  
fig. 11. coll. Ent Soc Phil

Hab Colorado. (Ridings)

lynx

*Lyganthracia*  
*Anthracia lynx* (Guén) Grote P. E. S. P. 2. p. 343. 8 p. 4. Mor. 34

Hab N.Y. Pa. Mass. (Grote) Fla. (S. G.)

In pl. 56  
fig. 17. Fla.

*Lyganthracia*

marginata

*Lyganthracia*  
*Anthracia marginata* <sup>100</sup> G. & R. P. E. S. P. 2. p. 340.

Gr P. E. S. P. 2. 4.

*Microphyssa contracta* Walk. G. & R. Tr. AES 2. 70 & 78.

In pl. 56  
fig. 10. Florida Sep.

" *divergens* Walk. G. & R. Tr. AES 2. 70 & 78.

*Euclyda designata* Walk. G. & R. Tr. AES 2. 70 & 78.

In pl. 77 Md

*Pyralis marginatus* Haworth G. & R. Tr. AES 2. 78

fig. 26.

*Anthracia reticulosa* Guén Mor. 34 G. & R. Tr. AES 2. 78

In pl. 107.

*anthephila divergens* Walk. G. & R. Tr. AES 2. 70

fig. 5 near very common  
in Mo. 1873.

Hab. Mi. Mo. & East. S. Can. N. Bruns. (Gr.) Md Fla (S. G.)

" mortua dead

*Anthracia mortua* ♂ Gr P. E. S. P. 3. p. 528 pl. 6 fig. 1.

In pl. 80  
fig. 20. from Grotes fig

Hab Colorado (Ridings) Gr.

nobilis

*Anthracia nobilis* ♀ Gr P. E. S. P. 3. p. 528 pl. 6 fig. 3.

In pl. 80  
fig. 18. from Grotes fig

Hab Colorado (Ridings) Gr

*Anthracia spraguei* Gr P. E. S. P. 2. p. 4 & 2 p. 431. pl. 6. fig. 4. 5.  
*Spraguei anthracis*

In pl. 70  
fig. 26. coll of Mr Grote.

Hab Pa. N.Y. Mass. (Gr)



*Lyggranthocia*      *salvata*      *anthocia*



*Heliothis laticarpus* G. 103/12

*Heliothis californicus* Grote

In pl CXXVI fig 8. fm Coll of Mr Grote

*Heliothis*

specimen sent from Haydens expedition  
-Hab West St.

In pl CXXVII/9.

*Heliothis palpi* short pubescent, antennae rather short thorax not  
 crests fore wing elongate triangular deflexed entire fore tibiae with 2 hairs  
 Lar 16 footed. Mith. 97.

How Os is }  
 of or belonging to the sun  
 "obscure" }  
 a tubercle swelling

*Heliothis* Ochs tuberculum Hub. see *Meliclyptus* P. 108.

*Heliothis* hirsuta see *Meliclyptus* P. 108.

Spinosa  
 spinosa, thorny

*Heliothis* Ochs. spinosa Guen. Gr. PESP. 3. 4 Saunders list Can  
 spinosa Mor (Hautsch) 34.

Hub Can. Saunders

*Heliothis* pyralis Hub. Mor 34 Gr PESP. 3. 4

Hub Geo. Mor

lucis  
 lucis a lum

*Heliothis* lucinia Walk. Mor 6. Gr PESP. 3. 4.

Canada Saunders. *Heliothis* } # spinosa. Guen # temperata Walk.

exponis to concave  
 or exposed

*Heliothis* (Hort) ~~exponis~~ <sup>(Walker)</sup> ~~exponis~~ <sup>Gr PESP. 3. 4</sup> ~~exponis~~ <sup>Mor 34</sup> ~~exponis~~ <sup>Saunders (Hort)</sup> ~~exponis~~ <sup>Portum Gr Nova</sup> ~~exponis~~ <sup>Socia Hort 3/32</sup>

*Pyralia* angulata Gr.

Ina pt 82  
 fig 9. coll of Mr Saunders Can

Hub Can (Mor) London Can. rare (Saunders) Nova Scotia (Bithum)

lucis

*Heliothis* ~~lucis~~ <sup>(Hort)</sup> ~~lucis~~ <sup>Saunders list Can</sup> ~~lucis~~ <sup>Mor 6.</sup>  
*Plusia* ~~lucis~~ <sup>aroides</sup> Gr

Hub Can. rare (Saunders)

Ina pt 82  
 fig 8 coll of Mr Saunders  
 Can.

armigera  
 bearing arms }

*Heliothis* armigera - Grote Am Ent 1. 211 & 2 p 42. Macr Ent 2. 35. Am Ent 2. 173. Zonalis  
 Gr PESP. 1. 347. & vol 2. p 276. Lack guide 316.  
 " undecima Grote PESP. 1 p 219.

fully. Boll worm of the south. (IG P.O. Ag. Rep. 1853 p 60, 64, 69. & 1855 p 99.) fig 21. Geo. Fla  
 " Corn worm of Md. Scarce bordered straw of Europe Newman 429. Ina pt 60 Md.  
 Egg deposited singly on green corn or the ruffle of the cotton boll

Larvae feed upon green corn before the grain hardens — in the  
 field & after the corn begins to grow hard attack the flower buds  
 & bolls of cotton very destructive to the Cotton bolls in the Southern St.  
 & to maize in Md. & Va.  
 Pupae formed underground.

Its when disturbed flies by day but generally is found on the wing only  
 late in the evening & early in the morning. "Pupa flying round heliothis 4000"  
 1853. "Is seen the day time at."

Hub. U.S. Am. Eu. Australia India Java (Newman 439) stem & larval. Corn. Food plants Cotton (Goly)

Hub Md. to Florida (IG) Green Peas (Am. Eu.) Corn (unripe) } Pumpkins &c  
 2/42 fruit

Hub Ky. & West Can. (Bithum) Can Ent 2. 67  
 Imported into England in a cage of tomatoes from Fruit Tomatoes. P.O. Ag. Rep. 1853. P.O. Ag. Rep. 1855.  
 Spain or Portugal Can Ent 2. 67 in stems of Heliothis Am Ent 2. 172  
 & " " Black Currant Am Ent 2/42

Green Peas, String beans (Hort) heads of Hemphill (Am. Eu.)  
 also in Europe upon stems of Tobacco, Lucerne & chick or Coffee Pea  
 Acer arctium Riley 3<sup>d</sup> Report. p 105.

Romney. molars & unguis as in Mr Smyth's experiment see Riley 3<sup>d</sup> Report p 99





phlox eating

*Heliothis phloxiphaga* G.H. Tr. & Ent Soc. 1. p. 187. *Riley Prairie Farmer* 1867 vol 19 p. 219  
 erroneously " umbrosus. *Pack. guide* 315.

*Phlox worm.* Dr. J. M. Riley

In fig 67  
 fig 18 (coll. of Mr Riley  
 Chicago)

Egg deposited singly on all parts of the plant.

Larva taken by Mr Riley feeding on the *Phlox*.

Pupa formed in a slight cluster's cocoon formed of sand or earth interwoven with silken threads.

Food Plant *Phlox*. Riley

allies to *H. deysacea* of Europe (Gr)

*Hab Illinois Colorado.* (Gr)

*Heliothis marginidors* Guén. *Mels. v. Am Ent* 1. 226.

(auth. Riley)

Lar. feed on Rose leaves. flowers buds. also  
 Poplar Willow & smartweed.

*LPR*, pl 16  
 fig 9. 10. 11.

Lar pale green covered with conspicuous black spots, *Am Ent* (varies in color 24)  
 Ins. deep rust color. see figs

{ Same Ins. pl 61. fig 14. see *Colletes insularis*  
 { some error.









114a

Ears yellow  
trifurcating  
nigra black  
pinnulae cornea

*Xanthoptera* (Guén) *negrosimbria* Guén Mor 37.

Ins pl 56  
fig 6. Oct Georgia

Hab. Ges.

resembles *Crumbus inornatellus* of Clemens, coll in Ent Soc Phil cabinet

Semi half  
flavus golden yellow  
craesus yellow

*Xanthoptera* *semicrocea* Guén? Mor (8) *Semicrocea* Pack guide 316.)  
" *semiflava* Guén Mor 37. is this the same? aff. ?  
Insects found in the cup formed leaves of  
the *Sarracenia* by Mr Ridings in Georgia

Lar fig 100  
fig 15. fm Pack  
fig 25 Ma.

Hab Md. (33) Geo Ridings

Sarracenia Pitcher plant

Ins pl 388/21  
fig 20. 21. Geo coll of Mr  
Ridings.

(placed by Pack directly after *anarta*. Therefore *Eximia*)

*Exyma*, *Gnate*

*Xanthoptera* *semicrocea* Guén pl 3 fig 3. Pack guide P. 316. see also fig Lar

7. Md.

" Dr A. W. Chapman of *Apalachicola* Fla. States in a letter to Mr. Sanborn that  
the Larva feeds on the leaves of the Pitcher plant, *Sarracenia*. It is red cylindrical  
with short black tubercles on the side of each segment & a black cylindrical spine on each  
side of the 4 basal rings of the abdomen surrounded by fine hairs. It does not spin a  
cocoon but hangs loosely by a few silken threads within the pitcher plant leaf & the  
mouth is the only insect that can get out of the bushy & narrow opening of  
the pitcher" Pack

60  
14 Ma.

*Xanthoptera* *rosalba*. *Gnate* Desc. N. Am. Noc. 3. 295.

Ins. pl CXVI. fig 12. fm coll of Mr Gnate.

*Exyma*

*Xanthoptera* *semicrocea* Guén. fig 2 by Riley. in Am. Science  
Association held at Hartford Conn. Sep. 1874

Egg deposited singly near the mouth of the Pitcher  
plant *Sarracenia variolans* & *flava*. The young  
larva spins a web of silk which closes up the mouth  
of the pitcher shaped leaf. Feeds the cellular tissue within  
commencing at the food or lid. Leaving only the  
epidermis. The pupa is formed in a very slight cocoon  
usually just above or within the packed extremity  
at the base of the tube. There are two broods, of larvae  
one early in May & the second in the end of June.  
The larvae are semitransparent. When adult are beautifully  
banded transversely with white & purple or lake red

color  
white

stom

*Exyma* *Ridingsi*. Riley

77/22

at Mr Sanborn's

*Erastria synochetis* Dr Hb. Tuluce 23 Ann  
Rep NY Cabinet Nat Hb. 68  
site Chamqui

*Callopusia argentea* Walk. 85/10 Can Can  
/96/8

*Erastria mollissima* Hb. Tuluce 23 Ann  
Rep NY Cabinet Nat Hb. 68  
18.

*Erastria apcosa* Haw

fastidiosa  
a sericea.

nigra black with  
white

*Erastria* (Ochs) *nigritula* Guén. Mor. 36

*Meana undulicera* Walk. Mon. 39. GFR. Tr. A. S. 2 p. 78

"Larva of *Erastria* 3 mouth slender with only 3 pair of abdominal legs }  
"Larva collected in a corner among leaves 4 mos. 11" Patch quite 316

Hab Ma (H.) Illin (Walk) Fla (Mor) Can (Saunders)

? " Larva *Erastria* of Europe has only 10 feet. H. 24. C. 21. Mor. 2. 395.

Ins pl. 56  
fig 10. Md.

Ins pl. 69  
fig 12. coll of M. March, Illin

Mucosula  
a little mouse

*Erastria* *musculosa* Guén. Mor. 36.

Examined taken May Md.

Ins pl. 56  
fig 18. Md. May.

Ins pl. 69  
fig 18. coll of M. March, Illin

Hab Ma (H.) Illin (Walk) N.Y. (Mor)

*Erastria* *cor*

*Erastria* *carneola*. Guén (Saunders det) Patch quite 316

" *carneola* Guén. Mor. 36.

Ins common in pine woods. (Saunders Can)

Ins pl. 52  
fig 10. Md.

Hab U.S. (Mor) Ma (H.) Can. (Saunders)

? *Erastria*

resembles *E. nigritula* somewhat but much larger stouter &c.

Ins pl. 60  
fig 14. Md.

*Erastria synochitis* GFR Tr. A. Ent. Soc. 1 p. 557

Ins common June & July Brooklyn NY.

Hab. Mass to Pa. (Gr)

*Erastria musca* GFR Tr. A. S. 1 p. 538.

Hab N.Y. to Pa. (Gr)

note " smaller than *E. musculosa* primaries brighter green carmine color  
of the transverse lines & ordinary spots & by the absence of the white  
subterminal line" (GFR) ...

*Leptoria*

*Leptasia* Guén *concinna* Guén. Mor. II. 239. Mor. 37.

Ins for coll of M. Saunders (Can. Ins. pl. 85  
Graham) fig 11.

Hab Fla (Guén) Can. (Saunders)

Ins Mor Cat. placed directly after *Erastria*

*Quadripidae variegata*

*Oxiopidae* Guén.

*Oxiopus* (Leitch) *monetifera* Guén pl. 14, fig 4. Grote FGR. 3 p. 5+2.

*Calopistria* Hüb

? *Oxiopus argenteolinea* (Hübner) Mor. 35.

Ins pl. 47  
fig 4. Md

Ins London Can rare. Quebec not uncommon. (Saunders)

Ins pl. 83  
fig 26. coll of M. Saunders  
Can

Hab Ma (H.) Can. (Saunders) Can N.Y. (Grote)

*alloptria rubicunda* Guén Tr. A. S. 2. 78

*Erastria rubicunda* Walk. " " " "

epior mood  
sows foot

moneta money  
fars to hear  
from the silver  
brass on wing

ch's beautiful  
spots. a large organ.  
43 hour.

redly

reps in posterior





*Plusia* palpa ascending maxilla very long, anten simple, head erect. thorax erect  
behind fore wings deflexed, with metallic spots. Lar. 12 footed. W. 97.

flavoviridis  
non  
divided brassy  
or copper colored.

*Plusia (Cals) aceris* (Hüb) Mor 35. Guen Park guide 313.

as pl 55  
fig 10 Mnd.

♂ Cal. Md.  
(European)

Lar. unigermineal with only 2 pair of ventral feet. Med-2.395.  
" *Plusia* some may be occasionally observed during the day darting about the long tubed  
flowers into which they insert their long snail tongues. (Mnd. 2.393.) frequently taken about buds in Md.

neverly over *Euastara* V. 156)

*Plusia brassicae* W.S. Riley 1869 L.P. 108  
fig 11 Riley fig  
Cabbage plusia.

Lar gnaw large irregular holes in leaves. of Cabbage  
Pupae frequently die from wet weather. in cocoon in  
Pupae formed in a thin loose white cocoon in

sheltered situations.  
L. very apt to die from disease especially in Cabbage.

Not. description of Lar. is almost exactly resembles  
Plusia pl 18 fig 2. found destroying cotton in the south

Parasites two mentioned Riley 2.110 L.P. 18 prob. 18.  
Remedia same as for *Peris rapae* & *drenchus* (Ja Plusia ni. fig 2.  
1869 p 110)

*P. brassicae* of Riley closely resembles *P. ni* Guen  
who occurs in Europe. The southern parts of  
America Mr. P. Heller of Stuttgart in Prussia  
to whom Mr. Riley sent specimens considers it distinct  
& therefore he has given it a name in accordance  
with its habits (Riley 2<sup>nd</sup> Rep 1869. 112  
Remedies same as for *Peris rapae* & *drenchus*

*Plusia brassicae* Riley Bethune Rpt point grows  
L.I. 108/11 Ann Ontario 1871 56  
Riley 2<sup>nd</sup> Rep 110

Remedy branching with a cross-like mark







*Plusia*

? *Plusia* ni *Deutch* (with Gots) Pack guide 312 1<sup>st</sup> ed. Rep. 1854. 61  
 ni math. of Newman p. 455 " " " 1855. 90. 91  
 Larva found feeding on lobes of Cotton Geo. LPS pl 18  
 (Biley states this to be <sup>near</sup> *Plusia brassicae*.) fig 2.  
 (at La. W. Newman) (Cabr Geo)

? *Plusia* Pack guide 312 1<sup>st</sup> ed. Rep. 1854. 61  
 " " " 1855. 90. 91  
 Larva found feeding on leaves of Cotton Geo. LPS pl 18  
 fig 1  
 as this & the preceding specimen were either lost or destroyed when I left the Dept  
 of Agriculture the species cannot be determined until new specimens are obtained.

*Plusia brassicae*. (Coyer) Mar 36.

\* Larva described by Mr Saunders P.S.P. 2 p. 29. figs Ins pt 53  
 on the Hop. fig 10 Md.  
 (at Md. (L.G.) Can. (Saunders) Food plant Hop. (Can. no. 2, p. 35)

\* Mr Linher questions this description as all the other Larvae of *Plusia*  
 are smooth (Linher's note).

procatia  
 a prayer.

*Plusia procatonia* Guén Mar 36. Pack guide 312 Lar desc?  
 Thistle *Plusia* Riley 2. 112

Larvae fed on Hollyhook. Aug (Saunders) Pack guide Ins pt 60  
 Pupa 9<sup>th</sup> Aug. fig 16 Md.

Hab Md. Can rare (Saunders)  
 Lar diff from P. Brunnea in having more sides of Food plant. Hollyhook. Can Saunders  
 head thoracic esp 8; black. See Riley desc. 2. 112 Thistle. Riley 2<sup>nd</sup> Rep. 1869 p. 112

simplex sample

*Plusia simplex* Guén Mar 36. Bethune to Nova Scot Inst 2

Ins pt 60  
 fig 15. 91<sup>st</sup>. Md.

Hab Md. & 8; Nova Scotia. (Bethune)

of the dead

*Plusia mortuorum* Guén Mar 36.

Ins pt 89  
 fig 14 coll. 9<sup>th</sup> M.  
 Saunders Can

Hab. Can rare. (Saunders)

? *Plusia* *efigata* Gr

Ins pt 94  
 fig 30 coll. of  
 Mr. Sauborn  
 Mass.

Hab Mass. (Sauborn)

? *Plusia*.

Ins from Nova Scotia in collection of Mr Saunders. Can Ins pt 96  
 I very similar to pt 94 fig 3. In Coll of Mr Sauborn  
 fig 19 coll. of  
 Mr. Sauborn.

Has Nova Scotia  
 (Saunders)

*Plusia* *iota* Guén *P. mya* Hübn } *P. thalassoides* Guén } *P. U. brevis* Guén }  
 mor } mor } mor }  
*P. palligera* Hübn } *P. amplic* Walk. } Can }  
 mor } mor } mor }  
 Nova Scotia Bethune.

*Anomis zylus*. (*Altea argillacea* Hübn) the cotton caterpillar or ma  
 Mr A R Goot of Buffalo in a paper read before the American Science  
 association meeting at Hartford Conn 1874. Sept. states decidedly that  
 Mr Riley has made a misstatement in his sixth Report where he claims  
 that the Cotton caterpillar hibernates as a moth. Mr Goot says that  
 he has observed the insect for five seasons in Central Alabama & that  
 the earliest period he has observed the worm was the last week  
 in June to the middle of July & that the appearance of the worm  
 is always heralded by the advent of the perfect moth, which comes to  
 the lights in houses at least a week before the worms appear in the  
 fields. Hübn describes the moth as originally from Bahia Brazil  
 & it also destroys cotton <sup>also</sup> in the West Indies Mexico & Brazil -  
 Mr Goot believes the insects die with their food at the end of each  
 year in the southern states & its next appearance is due in every  
 instance to a fresh migration from more southern regions. & concludes  
 that the permanent residence of this insect is outside our cotton belt  
 & that it is not indigenous but an annual, not a denizen but  
 a visitant, & that the agent of their destruction must be directed against  
 the first brood & that concerted action on the part of the planters  
 when the remedy is to be applied will be necessary. Mr Packard  
 has taken the insect in the eastern states Mr Goot H. H. Harvey  
 in Buffalo & Mr Riley says it has been taken in Chicago. It  
 probably follows the coast line & the water courses emptying  
 into the gulf of Mexico as the moth is capable of making extended  
 flights. Mr Goot likewise remarks that the worm is always heard of  
 first to the southward of any given locality it comes as an army  
 from the north & the broods arrive consecutively as long  
 season last.

*Altea argillacea*. Hübn. cotton moth - see *Anomis* 97

ON THE COTTON WORM OF THE SOUTHERN STATES (*Aletia argillacea* Hübner). By AUG. R. GROTE.

THE earliest<sup>1</sup> scientific name for the cotton worm is given by Jacob Hübner in the second hundred of his "Supplement to the Collection of Exotic Lepidoptera," dated 1822. The moth is there figured in two positions under the numbers 399 and 400, and described under the name *Aletia argillacea* on page 32. Although the insect has subsequently received different names, this name of Hübner's is the one it should in future bear. For the name "*Anomis xyliua*," now in scientific use, I am responsible. In the year 1864, in the Proceedings of the Entomological Society of Philadelphia, I referred the *Noctua xyliua* of Thomas Say to Hübner's genus *Anomis*, as defined by M. Guenée, and regarded as synonymous the *Anomis bipunctina* of the latter author.

With the true type of the genus *Anomis*, the *Anomis erosa* of Hübner, I have since then become familiar, and I find that it differs structurally and generically from the cotton worm moth, which latter must accordingly remain under the combined title originally proposed for it by Hübner.

The different stages of *Aletia*, as it is found throughout the cotton belt of the Southern States, have been faithfully portrayed by Professor Townend Glover, of the Agricultural Department in Washington. On the Professor's plates numerous other insect depredators on the cotton plant are excellently portrayed, and this work (I believe as yet unpublished) ought certainly to be issued by the Legislatures of the different states interested in cotton culture, or indeed by the General Government, and publicly distributed, so that a knowledge of the economy of these parasites be diffused. For his manuscript work, Professor Glover has indeed received a medal from the late Emperor of the French (a nation fortunately profuse in acknowledgment) but if I am correctly informed, no more substantial reward has as yet crowned Professor Glover's praiseworthy efforts for the advancement of knowledge and the consequent amelioration of his race.

In the Second Report on the Insects of Missouri, Professor C. V. Riley notices the cotton worm, and illustrates the moth by a

<sup>1</sup> I am indebted to Dr. Hagen for the bibliography of the *Noctua gossypii* of Fabricius. I believe this to be a distinct species from the *Aletia* and probably belonging to a different family.



woodcut, in which the insect is represented head downward in a state of rest. The moth is drawn in this position on the authority of a gentleman in Texas, and the subject is treated throughout, and indeed necessarily, by Professor Riley, at second-hand. In Professor Riley's Sixth Report (published this year) the cotton worm is again discussed under similar conditions, while the position of the moth in a state of rest has now become normal. It is however claimed, in this Report, that the cotton worm "hibernates" as a moth, and the credit of this observation is given to the Second Report, while the discovery of the fact is claimed to have been made by what Professor Riley calls the process of "analogy."

It is the object of the present paper to throw, happily, some light on the biography of the cotton worm as it occurs in the Southern States, and in so doing I think it will become apparent that Professor C. V. Riley has regarded the same subject from an erroneous standpoint, having considered the cotton worm as belonging to our fauna, and accordingly misunderstood its economy as displayed with us and far from its natural abode. And here, while I am obliged to differ on a scientific question with Prof. Riley, I bear willing testimony to the great good achieved by the publication of the Missouri Reports.

The *Aletia argillacea*, or cotton worm, is an insect belonging to the Noctuæ, a group of nocturnal moths. It is one of a number of intertropical or southern forms, somewhat nearly allied to our more thickly scaled and northern genus *Plusia*. The caterpillar is a "half-looper," to use a common term, and the chrysalis is held within an exceedingly loose web on the plant, the few threads usually binding over the edge of the leaf and of themselves furnishing no adequate protection to the pupa. [I here exhibit to the Association specimens of the larva, pupa and moth of *Aletia*]. Technical descriptions of the different stages are already extant and so may be passed over here. The more immediate question for our solution is the consecutive history of the insect, so that we may be prepared to offer suggestions to the agriculturists for its destruction.

The region over which, during five seasons, I have observed the cotton worm, embraces the central portion of the cotton belt in the states of Georgia and Alabama, and in particular the counties of Marengo and Greene, lying along the Tombigbee and Black

Warrior rivers. There cotton is planted in March and April, blooms in June and July, and perishes in November or with the frost. The earliest period at which I have noticed the young worm was the last week in June, and its usual appearance was in July, sometimes as late as the latter part of the month. Its date of appearance was irregular, and never accurately coincided in any two seasons. Sometimes it seemed as though we were "*not going to have any worm at all this year,*" a remark suggested by hope and the tardiness of its advent. My observations have been mainly directed to the question of the origination of the first brood and have led me to record the following results. I have observed that the appearance of the worm in the fields was always heralded by flights of the moth, which came to light in houses at least a week before the worm was noticed on the plants. I have observed that the distribution of the first brood was irregular; the worms occurring here and there over miles of country, while infesting some plantations, skipping unaccountably others which the second brood, however, seldom failed to reach. I have noted that the worm was always heard of to the southward at first, and never to the northward, of any given locality in the cotton belt. Finally, after diligent search, no traces of the insect in any stage could be found by me during the months *preceding* the appearance of the first brood heralded by the moth, and *after* the cotton was above the ground. The broods themselves were consecutive and without interruption so long as the conditions were favorable. The last brood, in years where the worm was numerous, eat up every portion of the plant that was at all soft, flowers, the persistent calyx, the very young boll, the terminal shoots. The last brood of worms changed into chrysalides in myriads on the leafless stems, clinging by their few threads as best they might, and disclosed the moth in the face of the frost, many of the chrysalides perishing. Afterwards, on sunny winter days, I have noticed the live moth about gin houses and fodder stacks, or the negro quarters. Was this a true "hibernation" or merely an accidental survival? The locality and the condition seem to me alike artificial.

Now Hübner describes the moth of the cotton worm at first, as from Bahia. Sufficient testimony to the identity of our insect with one destructive to the West Indian, Mexican and Brazilian perennial cotton, is at hand and the fact is established. In a classificatory point of view, the affinities of the cotton worm are

with southern rather than northern forms of its family, as I have already pointed out. The conclusion to which I have come with regard to the cotton worm is, *that it dies out every year (with its food plant) that it occurs in the cotton belt of the Southern States, and that its next appearance is the result of immigration.* Testimony is at hand to show that for many years after the cultivation of the cotton plant was introduced into the Southern States, the cotton worm never appeared. The date at which it first appeared in Central Alabama has been differently stated to me, but it evidently but little preceded the late war. That the moth is capable of sustaining long and extended flight is readily proven. Professor Packard observed the moth off the coast of the Eastern States, as also Mr. Burgess. I have observed the moth in October in Buffalo, N. Y., as also Dr. Harvey. According to Mr. Riley the moth has been observed in Chicago, I presume in the Fall. It seems that the moth follows the coast-line northward as also the water courses that empty into the Gulf of Mexico. It is noteworthy here that the water-shed of the Ohio and Mississippi, extends to within fifty miles of Buffalo. As an example of the prolonged flight of moths, I will state, that I have observed in the Gulf Stream, off the Carolinas and out of sight of land, in the month of August, large numbers of a moth, the *Agrotis annexa* of Treitschke.

Again I have been struck by the absence of parasitic checks to the cotton worm in the south. I could never discover any, although such may exist. Spreading as I believe it to do, as a moth, the absence of peculiar parasites to the worm may be reasonably accounted for. I have already and elsewhere pointed out, that in order to make the first brood of the cotton worm the progeny of the so-called "hibernating" individuals (as Professor Riley would suppose), a period of several months has to be accounted for, since these "hibernating" moths could not wait till mid-summer to deposit their eggs; and while the cotton is young, and even before it is up, insect life is active, and the weather is warm and other vegetation fully out in the region of the South where I have lived. There is also no reason to believe that the cotton worm ever breeds in the North, and this, notwithstanding Professor Riley's suggestions to the contrary, in the Sixth Report before mentioned. The worm never has been noticed on any other plant than the cotton, and in the south perishes by thou-

sands rather than eat any other. The habit of wandering in masses when food fails is a proof of this, as while the worm is supplied with cotton leaf it never quits the plant, transforming to the chrysalis on the stalk which has furnished it nutriment. The wandering habit is not normal but accidental, and the worm is not "gregarious" like the "tent caterpillar." Its "hibernation" with us must also be regarded as accidental, or at least as barren of results. For when spring comes the *Aletia argillacea* has vanished, and is not found with the hibernating species of Lepidoptera, renewedly active. And if it *were* found in February and March, it would find no cotton plants upon which to deposit its eggs. If oviposition ever takes place in these months in the cotton belt, the young cotton, free from worms, disproves its efficacy.

It is possible that in the southern portions of Texas, or the Floridian peninsula, the *Aletia* may sustain itself during the entire year; I have no means of information on this point. My observations are made on its occurrence over the central and principal portions of the cotton belt and into which I believe it to be imported *de novo* every season that it there occurs and from more southern regions.

I conclude, therefore, that while the cotton plant is not indigenous to the Southern States (where it becomes an annual), the cotton worm moth may be considered not a denizen, but a visitant, brought by various causes to breed in a strange region, and that it naturally dies out with us in the cotton belt, unable to suit itself *as yet* to the altered economy of its food plant and to contend with the changes of our seasons.

When this fact is comprehended, it will simplify the process of artificial extermination by limiting the period during which we can successfully attack the cotton worm, and by doing away with a certain class of proposed remedies.

From the foregoing it will be evident that 1. The artificial agent employed to destroy the cotton worm must be employed against the first brood as it appears in any given locality during the progression of the moth northward; and 2. That, in order to be effectual, a concerted action in the application of the remedial agent in any given locality will be found necessary.

I also recommend the introduction of the English sparrow into the Southern States, and additional legal protection to insectivorous birds. Since the war there has been too much ignorant



use of the gun on the part of the negroes. *All* the birds should be protected as much as possible, for many species not usually considered insectivorous are yet found, during certain seasons of the year, to live on insects.

I offer the following as the synonymy of the cotton worm in scientific literature:

*Aletia argillacea* Hübner, Zutr. 3d Hund., S. 32, figs. 399-400 (1822).

*Noctua xyliana* Say,<sup>2</sup> Sec. Ed. Vol. 1, p. 370 (1859).

*Anomis grandipuncta* Guenée, Noct., Vol. 2, p. 400 (1852).

*Anomis bipunctina* Guenée, Noct., Vol. 2, p. 401; id. Vol. 3, p. 397 (1852).

*Anomis xyliana* Grote, Proc. Ent. Soc. Phil., Vol. 3, p. 541 (1864).

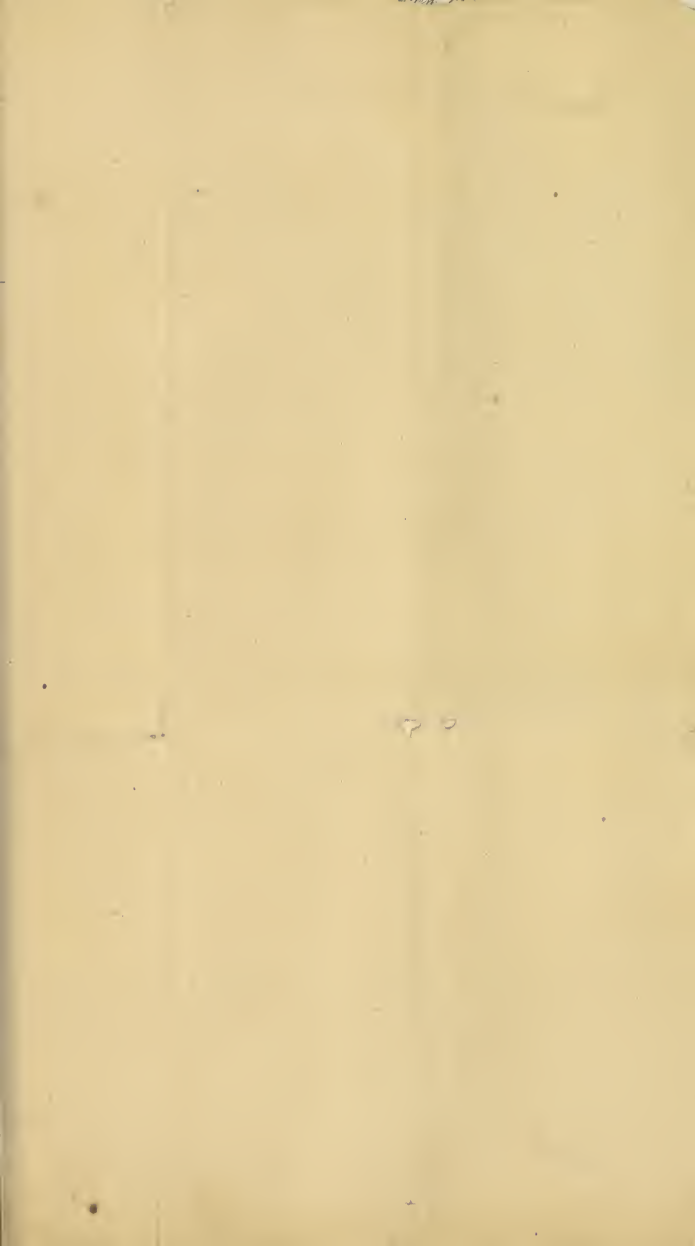
*Anomis xyliana* Riley, 2nd Mo. Rep. p. 40, fig. 13 (1870).

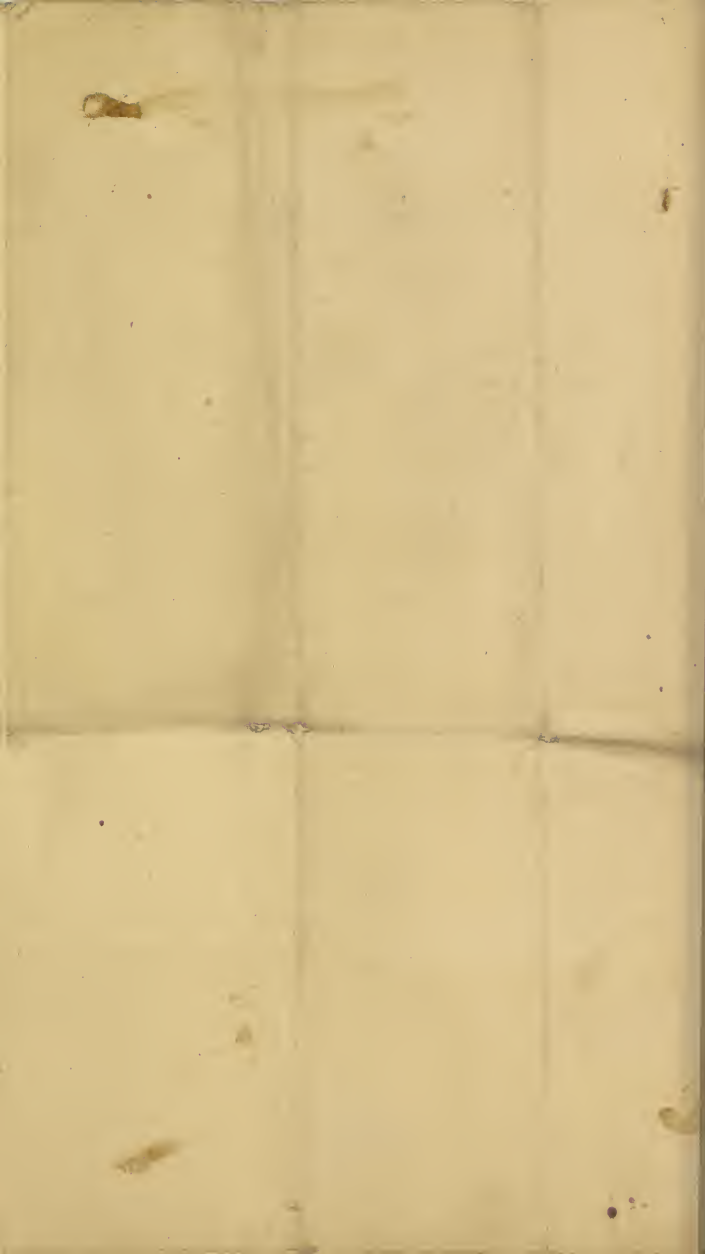
*Anomis xyliana* Grote, Rural Carolinian, 3, p. 88 (1871).

*Anomis xyliana* Riley, 6th Mo. Rep. p. 17 (1874).

*Aletia argillacea* Grote, List of the Noctuidæ of N. America, p. 24.

<sup>2</sup> In a letter to C. W. Capers, dated Nov. 1st, 1827. I do not know whether this letter is elsewhere published, but this question will not affect the synonymy here proposed.





Am Ent 1 p 210. July 2<sup>d</sup> Rep. 38

without  
wings should  
Xylorinum  
cotton

*Anomis (this) xylina* Say. Grate PESP. 3 p. 541. Packard Guide 313.  
*Noctua xylina* Say 1827. Say Cicantes Vol 1 p 370. 1859. P.O. Ag Sep. 1855 p 71 Har 487  
*Anomis bipunctaria* Guen No 2 p 401 (1852) Walker CBM Sep no 6 p 988 (1856)  
? " *bipunctata* Guen No 4 p 401 Mar 34  
Agricultural report of Patent office I monthly rep Sep Ag.  
*Ophiura xylina* American agriculturist 1867 p 443.

Cotton worm or Cotton army caterpillar Ins Cotton fly or moth  
Egg L.P. Co. Ins p 18  
fig 4 Florida

Egg deposited singly on either leaf stalk or "ruffle" of flower  
500 to 600 eggs laid by each female. That afflicts in Riley 2<sup>d</sup> Rep. p 38

Larva in their first appearance in Aug (Fla) I continued until destroyed by the frost

The caterpillars of the first broods were mostly of a light granitic color in the later broods many dark colored or nearly black varieties appeared. which however produced the same moths as the green larvae. These caterpillars move from place to place by looping, their bodies I do not crawl in the same manner as the caterpillars of the Boll worm *Heliothis armigera* p 108 p 193.

which destroys the bolls & the Grass worm. or grass army worm of the South p. 100 p 18 fig 5.

which feeds upon the grass & weeds between the rows of cotton I by this peculiarity of looping may be readily distinguished from other caterpillars less destructive

Tupa formed in a slight loose web or cocoon spun in the leaf or among the neighboring weeds & bushes.

Insects appeared Aug & Sep until destroyed by frost } " I always rest with care down wards" Afflict in Riley

{ never heard of this caterpillar feeding upon anything but } Food plant Cotton  
Cotton, excepting once, which a Mississippi planter told me had  
found it eating into indigo thoroughly.  
{ Packard places this directly after *Stadia* in p. 313 } ? Wild Indigo

For more full account see Patent office Ag<sup>t</sup> Rep 1855 p. 71

I monthly report of Dept of Agriculture

Lar. green doubly striped with black on back. Spinnets with black dots from which arise hairs. 2<sup>d</sup> brood & some individuals darker & some very dark. I yellow instead of green striped. 16 feet - 1<sup>st</sup> have ventral imperfect causing it to loop somewhat like a granule. 1850.

varia. Am Ent. 1.242.

mis *xylinae* by Lewis & Dyer. Am Nat. VII. 213  
figure of cotton caterpillar, & from my figure of the grass army worm of the southern states. Two credit whatever given

distinction V. rect. Nat. IV. 52

Am Ent. . . .

in piles of cotton seed under shelter. under bark  
a forests. Rather secure places, it seems to carry but  
there is reports in Cal. 312. 31. in pine  
in young 3<sup>d</sup> L.P. Harv. moonville. Har. in Am Ent.  
ber of these insects it is stated that "Genl. W. L. Branson  
by handfucking 10 pork barrels full of the caterpillars  
generally rests with head down on its aspect"

*Anomis xylinae* for communication for Sec. Ent Soc London.

" in 1788 these insects destroyed 250 tons of cotton in the Bahamas. they  
caused the cultivation of cotton to be given up in many of the west  
India Islands. The one was almost the same in Egypt in 1788. 4 years after  
in Georgia in 1800. it ravaged S. Carolina. 4 years after  
They were in Louisiana Dec 1825 they ravage the whole south  
& it was very difficult to get rice for the following year. The army  
worm appears in Guiana & other parts of S. Am. Am Nat. 1850

berry, Riley 3<sup>d</sup> Rep  
" by report of the L  
(Am Ent)  
in 1788  
Ent. 2. 74 }

*Anomis grandipuncta* (Guen) Bethum Can Ent 1. 57

Taken in great numbers in eating in Sep 1865. First uncommon in  
various parts of Ontario. Can Ent

Not Can.

c. Lar 1

by common  
or neglected  
can



*Donoptera Libatrix* Linn. Lenth 23 Ann Rep.  
Wys lat nat ins. 63

Bright velvety green with a yellow stripe on each side shaded beneath with brown. Longitudinal on the back is a black stripe  $1\frac{1}{2}$  inch in length.

Larva on willow pupa forms among leaves. Crawls together with silken threads, toward the pupa is attached by an anal spine. Pupa hatched by fall brood 15 to 20 days.

*Amphipyra pyramoides* Linn.  
green loam spittle grape worm of Baron 1st Rep.  
max ins. Min 1879. 56

Lived on poison max ins. <sup>light</sup> 56.  
Pupa may form in log hives with silk.  
Pupa state lasts 42 to 48 days.

food plants Grape Red bud poplar

## Culpidae Guén

Kath'g an urn.

*Calpe* (Vreetsch) canadensis New. Chas J S Bethune P E S P. 4. p. 213. Can Ent. 1. p. 72  
*Rusioclonia purpurascens* Walk. G & R Tr A E S 2. 87. (Walk. Cat. Pap. Mus. Nov. 1863) Ent Soc Phil Feb 13. 1865  
*Oraesia sobria* Walk G & R Tr A E S 2. 87.  
 Canadian Culpe.  
 Has London Can. (Bethune) M. W. McDermeyer  
 Mass. (Sauborn)  
 Ins pl. 45. coll of Mr McDermeyer NY  
 Ins pl. 67. coll of Mr Sauborn  
 Mass.

"it is worthy of notice that this is the first species of *Culpe* that has been found in north america & moreover the first representative of its family that has been discovered north of the tropical regions of this continent" Bethune P E S P. 4. 214

dypros. rich  
 870bs. a color

*Rusioclonia compressipalpis*

compressus. compressus  
 palpi.

Hab Can rare (Saunders)

Ins pl. 26.  
 fig 13. coll Ent Soc Phil

89/32

97/7

? deriv

purpureus. curcul.

*Neva purpurigiva* Walk. Saunders Ent.

Hab Can (Saunders)

## Gonapteridæ Guén

*Sciolepteryx* (Germar) *lebalix* (Liu) Mor 34 Bethune Tr Nov Scot Inst 2/  
~~Sciolepteryx~~ - labra the dorsal moth of newmax p 456  
 I bought velvet green with a yellow stripe on each slender border  
 with brown longitudinal on the head is a  
 black stripe. 1/2 inches in length 4 feet on 1/2 inch. Ins pl. 52  
 fig 16. Md.

Hab Md (G) London Can not uncommon (Saunders) Linnae 1869. Rep. 149 Scabius  
 Nova Scotia. Bethune

## Tortricæ

*Amphipyra pyrametella* Newm on Europe etc  
 known as the copper-miner's pest on oak

## Amphipyridæ Guén

diff. around  
 pupa a pyre  
 of water fire  
 pyramis  
 a pyramid.

*Amphipyra* (Cksh) *pyrametoides* (Guén) Mor 41 Uta Ent 2. p. 26. Can Ent 7. p. 108  
 Lar. May in Missouri. pupa formed in a loose cocoon of whitish silk  
 Lar. on surface of ground between fallen leaves &c. Ins single  
 Lar. in woods the last brood appears in mid. the following April  
 Ins. taken in great numbers. (Pan) Aug. 2. 1869.  
 some of them prob winter over as Ins also.  
 moth is attracted by sweets.  
 Ins pl. 55  
 fig 2 Md.

Hab Md. (G) London Can common (Saunders) (Cksh. Guén) Raspberry. Riley 3<sup>rd</sup> p. 108  
 note the specific name *pyrametoides* prob refers to the pyrametoid hump on the 11<sup>th</sup> seg of the 1<sup>st</sup>  
*Amphipyra pyrametoides* Guén Europe on elm poplar oak &c (Can Ent)

emery  
 not lucky  
 Riley 34<sup>th</sup> p. 73

anatomies

*Amphipyra inornata* Gr P E S P. 3. p. 86

Ins very similar to *pyrametoides* Gr Sprob var. of *A. pyrametoides*  
 Hab Can (Gr) Can Ent 2. p. 74

*Tragepogon*  
 Lar. 1000  
 in 1000  
 in 1000  
 in 1000

*Amphipyra tragepogonis* Germ. Saunders list Can Ent 2. p. 73 desc. Lar 1<sup>st</sup>  
 under moth of England (either from its color or habit of covering itself)

Hab Can (Saunders)

Lar. apple green with 5 white narrow longitudinal lines  
 p. July 11 formed in a slight silken cocoon  
 death is brown in its appearance 3<sup>rd</sup> Aug. (Can) 4<sup>th</sup> very common

Lar. eats Spinage. 2<sup>nd</sup> (Cksh) 3<sup>rd</sup> (Cksh) 4<sup>th</sup> (Cksh) 5<sup>th</sup> (Cksh) 6<sup>th</sup> (Cksh) 7<sup>th</sup> (Cksh) 8<sup>th</sup> (Cksh) 9<sup>th</sup> (Cksh) 10<sup>th</sup> (Cksh) 11<sup>th</sup> (Cksh) 12<sup>th</sup> (Cksh)









spcs similar;  
trisp. ring

lenatus  
marked with  
a more like S/10.

Extensae.  
Homopteridae Guén.

*Homoptera* *Bas* *lenata* (Guén.) Mor 31. Guén Pack. Guén 318.

Ins. pl. 53  
fig 22 Md.

Hab. Ma. (G.) Can. rare (Saunders)

*Homoptera* *edusa* Guén Mor 31 Guén  
*putrescens* Guén (Mor)

Pack. Guén vol. IV. 329.  
from another unpublished fig.  
Ins. pl. 53  
fig 4 Md.

Hab. Ma. (G.) Can. rare (Saunders)

oblique.

*Homoptera* *obliqua* Guén Mor 31

Ins. pl. 61  
fig 29. Md.

Hab. Can. (Mor.)? Md. (G.)

\* a supposed var of this species Cat. Port. Mus. XIII. 1054. is a rubris spec. of *H. minima*. Bethune Cat. Ent. 1. 71

{ *Calycanthus*  
ashue.

*Homoptera* *calycanthata* (Sm.) Mor 31. SVA pl. 104

Brown & White margined Moth (SVA)

Ins. pl. 9  
fig 2

Larva spun cocoon 3<sup>d</sup> May  
Ins. appeared 19<sup>th</sup> Feb. (Geo)

Ins. pl. 66  
fig 17. 18. fm SVA. fig. 207.

Food Plants Oak. Sweet scented Shrub or  
Carolina allspice. SVA.

*Homoptera* *calycanthata* Sm. Bethune Can. Jour. 1865, p. 251 according to Guén & Robinson is *Lathroidea* Hübn.

Hackish

*Homoptera* *nigricans* Rev. J. Bethune P.B.S.P. 4 p. 213

Hab. Can. (Bethune)

*Homoptera* *Saundersii* Rev. J. Bethune P.B.S.P. 4 p. 213

Saunders. *Homoptera*

Hab. Can. Bethune.

{ *Homoptera* *minica* (Guén)  
*Comp. obliqua* Guén & SVA (Mor)  
white sh. 55-57

*H. nivalata* Walk. *H. Contraria* Walk. *H. herminoides* Walk.  
doubtful Mor.

*H. allopascata* Bethune

*H. duplicata* Bethune.

white sh. (S)



Erebus. *Erebus (Latre) odora*. Drury. Mar 31. Paen. side 318.

odora. a small or  
very, color.

Erebus stria or small moth  
mostly obscure 11 inches in width  
measured in Sturges

In The specimen figured was taken at the Maryland Agricultural College about 9 o'clock in the evening by Mr Goldsborough one of the students. It had somewhat injured itself by flying into the burning Gas light, one specimen was taken by + Mr Sangster of Toronto Canada in 1867. (Can Ent. 1. 88.) from the number of specimens in the possession of Dr Arthur Schott of Washington D.C. which he brought from Yucatan 3/23. this species must be rather common there

In pl. 59  
fig. 6. Ma

1861. Calif. Mex. Bdr

Jr. An Ent Soc 3/23.

11ab Ma (L'E) Can (Saunders) Yucatan (Dr Schott) Texas (Mor)

another spec was taken by Mr B B Bellings at Ottawa. (Can Ent 1. 88.)

(112)

*Erebus odora*, Gosse Nat in Jamaica 234

Is found chiefly in deep sombre woods  
It alights suddenly on a tree without hovering  
It rests on a dark surface with horizontal  
wings. It is thus not readily discovered.  
" Sometimes one of these large moths is  
known to reside in a certain hole in a rock  
on a hollow tree to which it resorts with  
such uniformity that it may almost be with  
certainty dislodged on any afternoon by gently  
a smart rap on the outside when and it rushes  
with such a startling suddenness with so  
irregular & zigzag a motion as often to  
defy capture. - found July or Aug.

? 2 1/2 to 3 height

*Ypsia (Guén) argemosa* Guén. Mar 12.

Hab Ma.

argemosa copper rust or reddish color.

In pl. 59  
fig. 4 Ma

*Ypsia* ? -

In pl. 59  
fig. 5 Ma.



126

*Melipotis ochreipennis* Harvey

LVIII/18. 95/9

LimbataePolinidae (Guén)

? larva  
yes 77. writing

*Synedra* (Guén) *graphica* (Guén) Mor 48. (Cib)

Hab Geo (Morris)

Ins pl. 76.  
fig 9. coll Ent Soc Phil.

Right

~~*Synedra hudsonica*~~  
*Hudsonian Synedra*  
Hab Hudsons bays

~~fig 7. 8. 8.~~

Right

Ins pl. 78  
fig 2. 3. fm G.H.

*Synedra* *Crawlandii* G.H. 4 p. 496. & vol 3 p. 533. pl 6 fig 7 &  
*Crawlands Synedra*

Ins pl. 57  
fig 25. Utah.

Hab Utah. (XG). Colorado (Ridings) Can. (B. Hume Can Ent 1.87 Ins pl. 80  
fig 6 fm G.H. 95/8.

*Synedra* ? *Melipotis limbolaris* Geyer

Ins pl. 83  
25. coll of Mr  
Saunders.

Hab Can very rare (Saunders)

~~*Synedra*~~ ? *Melipotis limbolaris* Geyer

Ins pl. 48  
fig 7. Phil.

? aff *hudsonica*

Hab Md. (XG)

*Synedra* *guen*

Ins pl. 42  
fig 15. coll Mr  
Grate

*Synedra* ? *divergens* Behr

Ins. fm. 1<sup>st</sup> year. Small. Taken in  
South California

Ins pl. 12. 2.  
fig 2.

ap. commencement or beginning  
1<sup>st</sup> year

*Brephos infans*

*Archicars infans*

*Brephos hamadryad*

Pack. 316. *Brephos infans* Mich  
guen

*Brephos* "lar smooth elongate with 6 legs though the first  
two abdominal pairs are useless for walking since the  
larva has a semilooping gait. It rests on trees  
makes a slight cocoon in moss  
or under bark " Pack's guide 216

Hab Mass  
" Labrador N. Eng.

Ins B. infans flies early in April before the snow has left the ground

Ins pl. 76  
fig 1. coll Ent Soc Phil

*Brephos* orange underwing of new moon 448







Eupantheno? Calocala nubilis Hal. I ~~6 3/4~~ Mo 8 3/4 Mo  
 ? if C amasio S.L.

Calocala Schr. abbreviatella Gr. Linn. C VII/12 Linn

Calocala Sch. arvensae Gr. C III/13

ed. w beneath  
x ados beautiful

*Catocala* (Schranks) *amazonica* Hüf. Mor Cat 32.  
" *parla* Walk. SW. Fr. S. 2. h. 79.  
" *nirwa* walk. a var " "  
" *liella* " a var " "

*Underwing*

Hab Md. (S.G.) Can. (Saunders)

Ins pl 63  
fig 10 Ma.

*Catocala amica* Hüf. Mor 32.  
*antiochila* Guis.

*Conusia* of Mor collection.

Ins pl 63  
fig 11. Ma.

Hab Md (H, Sanaba (Saunders)

? is this *Alletia elongipha* see p. 121?

*Catocala amasia* Sm. Mor 33. SVA pl 90. Guis  
? *Parthenos nubilis* Hüf. Mor 34. (Edw & auth) Har Cor. found on ground under *Rubia* P. 319  
Yellow *underwing* looper moth: S.G.  
Lar pl 6  
{ L. Sep. 1858. Hides in holes of the trunk of *Rubia peruviana* & comes out a  
Larva of *peruviana* among leaves May 2<sup>a</sup> SVA  
Ins appeared May 28 Geo " Ins pl 69 Md.

Hab Md (H) Geo. (SVA) ? Can (Can Ent 188 Food plants Oak? Trade of China

*Parthenos nubilis* Locust (Har Cor)

note Mr. Latimer writes that this figure does not correspond with Guis's description

? *Parthenos nubilis* Hüf. 2<sup>a</sup> marginal series of confluent round black spots, 1<sup>a</sup> thorum (Can Ent. 188

*Catocala fabia* G. H. P. E. C. p. 22 pl. 1 fig 1 ♂

Ins pl 65  
fig 28. coll of M. Sanborn  
Mass.

Hab Mass. (Sanborn) N.Y. R.V. Pa (Grote)

Ins pl 71  
fig 2. coll of Mr. Grote N.Y.

*Catocala cara* (Doubled) Mor 32.

Ins pl 70  
fig 24. coll of Mr. Grote

Hab U.S. (Mor)

*Catocala corygama* Fr. coll. Guis

" *corygama* Guis. Mor 32. & Saunders list

Ins pl 58  
fig 24 Ma

Hab Md (S.G.) Can (Saunders)

Calocala mira Grote. No. 63/12

*Catocala consors* S&A Mor 32. SFA 89.

Common American yellow Underwing SFA.

Grass or  
a pasture or corn field

Lar Spun among leaves Apr 29<sup>th</sup> May 22

Im appeared June 7<sup>th</sup> & June 16<sup>th</sup> Sec.

Lar pl 89  
fig 3. fm SFA

Im pl 86  
fig 21. fm SFA.

Food plants False indigo Oak Wax Myrtle SFA  
Hab Sec (SFA)

*Catocala ebriornis* ♀ Grote PESP 3. p. 89. pl 3 fig 4  
Antony Catocala

Im pl 80  
fig 21. fm Grotes fig.

Hab Eastn St. (Grote) London Canada rare (Saunders)

concombs  
to lie together

*Catocala concubens* Walk. Mor 0 Bethun Tr Nov Scot Inst 2/

Larva described by Saunders PESP 2 p. 29.

Im pl 70  
fig 19. coll of M Grote

Hab Canada (Saunders)  
Nova Scotia, Bethun

Food plant Willow

fraterculus  
a little brother

*Catocala fraterculus* GKR PESP. 6 p 24 pl 4 fig 3. B. Mor 0

Im of infrequent occurrence (Gr)

Im pl 81  
fig 6. fm Grotes fig

*Catocala oraxi* Saunders

Hab 944 Rhode Island. (Gr) Can. (Saunders)

Im pl 57  
fig 2. coll of Mr Saunders  
Can.

formula beauty?  
or a note.

*Catocala formula* GKR PESP. 6 p 27 pl 4 fig 5 B. Mor 0

Im pl 71  
fig 1 coll of Mr Grote

Hab 924 R Is 7/2 (Gr)

resembles *C amasia* of SFA but differs in detail (Gr)

*Catocala grynea* (Cramer, Mor. 33.  
" *ruptula* Walk. GKR Tr AESL 19.

58/23 Mo

Im pl 88  
fig 2 Mo.

Note. This specimen resembles *C polygama* of the British museum see  
next page.



*Catocala lineella* Gr. 104/11 Tenn.

*Catocala polygama* Guen. 87/3 Can.

Ins. from collection of Mr. J. Curtis Knaxville Tenn

Ins. pl. 124  
fig. 11.

graciful

*Catoxala gracilis* Edwards

Ins. taken near Quebec &amp; Ottawa by Mr. Bowles

Ins. pl. 77  
fig. 3 Coll. of Mr. Grote

Hab. Can. (Saunders)

? like or Troy

*Catoxala ilia* Cramer. Mon 32.Larva found feeding on Oak Wood in April  
Pupa formed under leaves & rubbish in box.Lar. pl. 12  
fig. 16. Oak Wood Apr.Ins. pl. 63  
fig. 9. May.

Hab. Md. (G.) Can. (Saunders)

minute or very  
small*Catoxala minuta* Edw. Gr. PESP. 6 p. 25."no species of *Catoxala* varies so much as *C. minuta* (Edw.)  
all its varieties can be readily traced however, after a proper  
study of its specific characters" Gr.Ins. pl. 4  
fig. 31. Md.

Hab. Md. (G.)

? said by Linnaeus not to be the true *C. Minuta*reigns  
newly married*Catoxala neogama* S.H. Mon 32. S.H. pl. 88Lar. pl. 2  
fig. 8. from S.H.

Great Yellow underwing S.H.

Ins. ~~pl. 10~~ Ma

Ins. pl. 71 is coll. of Mr. Grote

Larva when not feeding stretches itself upon the body of the tree at  
full length & resembles the bark so much in color as not to be  
readily discovered. Spun 12<sup>th</sup> May (Gos.) Lar. not uncommon Can. (Saunders)

Ins. appeared June 12 (Gos.)

Food plant Black Walnut S.H.

Hab. Md. (G.) Geo. (S.H.) Can. (Saunders)

*Catoxala puerla* Linn. 1547. Rep. Mr. Cat.

pudorous or marry

*Catoxala ponderosa* G.H. PESP 6. p. 23. pl. 4 fig. 2 &Ins. pl. 81  
fig. 3. from G.H.

Hab. Illin. W. Va. (G. &amp; R.)

"resembles the description of *C. nebulosa* (Edw.) but differs (G.H.)res. *grynea* Cram.*Catoxala ~~polygama~~ grynea* Cram. Mon 32. (See also *C. grynea* p. 115.)Lar. (described by E. P. Reed London Ontario Co. Can. in Can. Ent. 2 p. 30) Pupa found in a slight cocoon  
made by worms together 2 days & short. Ins. appeared July 29<sup>th</sup>

Hab. Md. (G.) Can. (Saunders) &amp; Can. Ent. 2 p. 33.

Ins. pl. 10  
fig. 20. June.*polygama* resembles *C. grynea*. pl. 63 fig. 12

Food plant Thorn. Can. Ent. 2 p. 30

*Catocala fronta* Guen Lr on Willow  
 J. C. XV. 15. Lenthies cell 23 Ann Rept NYS cat nat his 64

*Catocala Stritchii* ? Behn

authority of Mr Grote

Specimen from Dr Palmer bundle of  
 Arizona & New Mexico

J. C. IX }  
 2 }

*Catocala*

2 Specimens taken by Dr Schott H.

Ins pl 162  
fig 15macularus  
very clear or bright*Catocala praetura* Gr. P.E.S.P. 6. p. 25. pl 4 fig 45Ins pl 51  
fig 14. coll of Mr Grote

Hab N.Y.

phalanga  
a smallish club or larva*Catocala phalanga* Gr. P.E.S.P. 3. p. 86 pl 3 fig 1.Ins pl 72  
fig 13. coll of Mr Grote.

Hab Mid. States (Gr.)

possibly a variety of *palaeogama*. Guen } (Gr.) see below  
*palaeogama* Mor 32makara's old  
yapew to marry*Catocala palaeogama* (Guen) Gr. P.E.S.P. 3. 540 Mor 32.Ins pl 72  
fig 16. coll of Mr Grote.

N.Y. (Gr.) Hab. Can (Sundus)

note 6 *palaeogama* of the British Museum belongs to *C. pictaria* Gr.

expiator or stone

*Catocala pictaria* Gr. P.E.S.P. 3 p. 88. pl 3 fig 5. & vol 3 p. 522.Ins pl 71  
fig 10. coll of Mr Grote

Hab Mid &amp; East. St. Common (Gr.)

Select

*Catocala* ~~relicta~~ *relicta* (Linnaeus) Mor 32.  
pro var " *amatrix* P. 113. pl 13 fig 10.

\* ? \*

*relicta* (Linnæus note)Ins. some of the specimens are much lighter color  
than that figured

Hab Pa.

Ins pl 76  
fig 17. Coll Ent Soc Phila\* *C. relicta* of Doubleday is from Nova Scotia. (see Bethune to Nov Scit Inst 2)

serenus serenus

*Catocala serena* Grote P.E.S.P. 2 p. 510.

Has Pa

Ins pl 72  
fig 18. coll of Mr Grote.*Catocala*

taken by Mr J. Curtis at Knoxville Tennessee

Ins pl 107  
fig 19sub. nubes horn  
note is daughter also*Catocala subnata* G.R. P.E.S.P. 3 p. 326 pl 4 fig 1.  
? *nubes* (or *nubes*. Mor 32)Ins pl 61  
fig 7. coll of Mr Grote

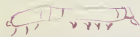
Hab Ma (Gr.)

Ins pl 80  
fig 22. Grot's figAllied to *C. neogama* (Syll.) (Gr.)



*Catocala desperata* Guen. ♂ 63/8

*Catocala stretchii* Behr.



*Catocala*

Ins taken by Dr Palmer border Arizona Mex 1867.

pl 103  
fig 13

139

shining sparkling

*Catocala scintillans* ♀ Gr 4th 1<sup>st</sup> E.S.P. Ep. 28. pl 4 fig 6.

Hab. D.K. (Gr.)

Ins pl 81  
fig 5. fm Grate. fig

ultra is unicolor

*Catocala ultraria* (Hüb) Mor 32. (Grote authority) Pack. Guide 317. for lar pl 8. 4a

Larva feeds on the Canada blum (Pack)

Supa formed in an Eastern cocoon July 15. Ins ap. 2<sup>nd</sup> Aug

Ins pl 44  
fig 19. coll of Mr Grote.

Hab N.Y. (Grote) } Can rare (Saunders)

109/15 2 102/15

Lar pl 100  
fig 22 fm Pack.

? var. yellow under wings. E.D. authority. Grote in T. from Coll of Dr Schell. D.K.  
taken 1879.

*Catocala viduata*? S.H. pl 91.

" vidua Mor 32.

prob " desperata Guen. (Lutinus note)

Lar pl 10.  
fig 7. S & R.

Black Underwing S.H.

Ins pl 8  
fig 8. 11nd.

Larva spun 18<sup>th</sup> May (Geo)

Ins appeared 16<sup>th</sup> June (")

Food plant Oak (S.D.R.)

Hab Geo (S.D.) Ma (G) Can (Saunders)

*Catocala* <sup>M</sup> *epione* Drury

Ins pl 70  
fig 14 coll of Mr Walsh  
Glen

Hab Illin (Walsh)

*Catocala* ?

Ins pl 84  
fig 3. coll of Mr Saunders  
Cov

cr

Hab Can. (Saunders)

affinis.

*Catocala nuptialis* Walk

Ins<sup>t</sup> Sent by Mr Allan Crocker from Kansas.

Ins pl 5  
fig 4 Kansas.

Hab Kans (Crocker)

? *Catocala*

Larva taken on Mahonia Oct 6<sup>th</sup> (L.C.) by Mr. Moller.

Hab L.C. (J.G.)

Mahonia

Lar pl 21  
fig 11 Mahonia Oct  
(116)

viduata  
bearded on  
underside



*Catocala relicta* Doubled., Morris 33

Hab Nova Scotia

Hamilton Can. (Can Ent 2. 35.

Canada  
Saunders

*Catocala parta* Guen. } *C. unijuga* Walk. } *C. axor* Guen. } *C. epione* Drury }  
 i *C. amatris* of Walk. } *Gr. WALKES 2. 79* } *Mor.* } *Mor.* }

*Catocala antonympha* Hüb. } *C. briseis* Edw. } *C. relicta* Walk. }  
*Mor.* } *Saunders Mor.* }

✱

*Catocala briseis* H.S. Gr. PESP. 2. p. 503.

Hab Rhode Is. W. (Can) Saunders

*Catocala marmorata* H.S. Gr. PESP. 2. 508

Hab Yreka Calif. (Gr.)

*Catocala walshii* H.S. Gr. PESP. 2. p. 508

Hab South Min. (Gr.)

*Catocala nchulova* H.S. Gr. PESP. 2. 510

Hab Dist Washington (Gr.)

*Catocala californica* H.S. Gr. PESP. 2. 509

Hab Yreka Calif. (Gr.)

*Catocala tristis* H.S. Gr. PESP. 2. 511

Hab N.J. Pa. (Gr.)

*Catocala similis* H.S. Gr. PESP. 2. 511

Hab Rhode Island

*Catocala parvula* H.S. Gr. PESP. 2. 512

Hab

*Catocala minuta* H.S. Gr. PESP. 2. 511

Hab W. V.



*Onastenia carulea* Grote.

Incl.  $\frac{CVI.}{1.}$  for coll of Mr. Grote

# Serpentinae

## Ophiuroidae Guér

### Parallela

op. good prob name

*Ophiura histriaria* Hüb Mor 28. Bethune Tr Nova Scot Dist 2.

? *Parallela* " Hab Tr N.E.S. 2. p 79.

*Paraphila amplexima* Walk Tr N.E.S. 2. p 79.

*Ophiura histriaria* Hüb Saunders Can Ent 2. 130

Lar pl 19  
fig 10. Mid Aug Maple

Larva found on Maple. Aug. Md

Ins pl 59  
fig 71. Md

" when about to go into the chrysalis, this larva cuts through a portion of a leaf. Of the time when it has fed & turning it over, a young little, can be found in the leaf. I or this completely, its transformation after remaining about 2 weeks in the pupa state the image appears. (Saunders Can Ent 2. 130)

Hab Md Va (G)

(Can. (Saunders) Nova Scotia. (Bethune)

Maple Silver, acer, dogwood

### Eucledidae Guér.

*Eucledia (Ophi) eucledia* Guér Mor 34

? " designata? Dist. mss.

Ins pl 61  
fig 30. Md

Hab Md (G)

Larva semi-geometrical with only 2 pairs of ventral feet quite worm-like in appearance. \* *Eucledia eucledia* } larva semi-geometrical with only 2 pairs of ventral feet quite worm-like in appearance. \* *Eucledia eucledia* } appearance have the habit of twisting themselves in all directions. (Hüb 2 p 395 fig 108/17)

Spaorgg  
a servant

*Mrasteria (Hüb) erichthaea* Guér Mor 34

? 20 vrichte Mor Cat. Guér

erichthaea. Linn. 189. Hf. NY S. Cab.

Bethune Tr Nova Scot Dist 2/ Har Cor 175. 318.  
Can Ent Saunders 1. p 4 Pack guide 317

Larvae very abundant (Md) in Clover fields & readily taken by beating the herbage with a sweep net. Ins.

Lar pl 9  
fig 5. 20. Clover Md

Ins taken March & Apr (Md) one of the first moths on the wing in spring

Ins pl 16  
fig 2. Md Clover Aug

The spring broods always several sizes smaller than the autumnal broods (Can Ent 1. 206)

Good plant Clover

Ins. pl 61  
31. 432 Md.  
light var

Hab Md. (G) Canada common (Saunders Can Ent 1. p 4. Nova Scotia. Bethune)

*Mrasteria agricola* GRR Tr. A.E.S. 1 p 189. pl 4 fig 34

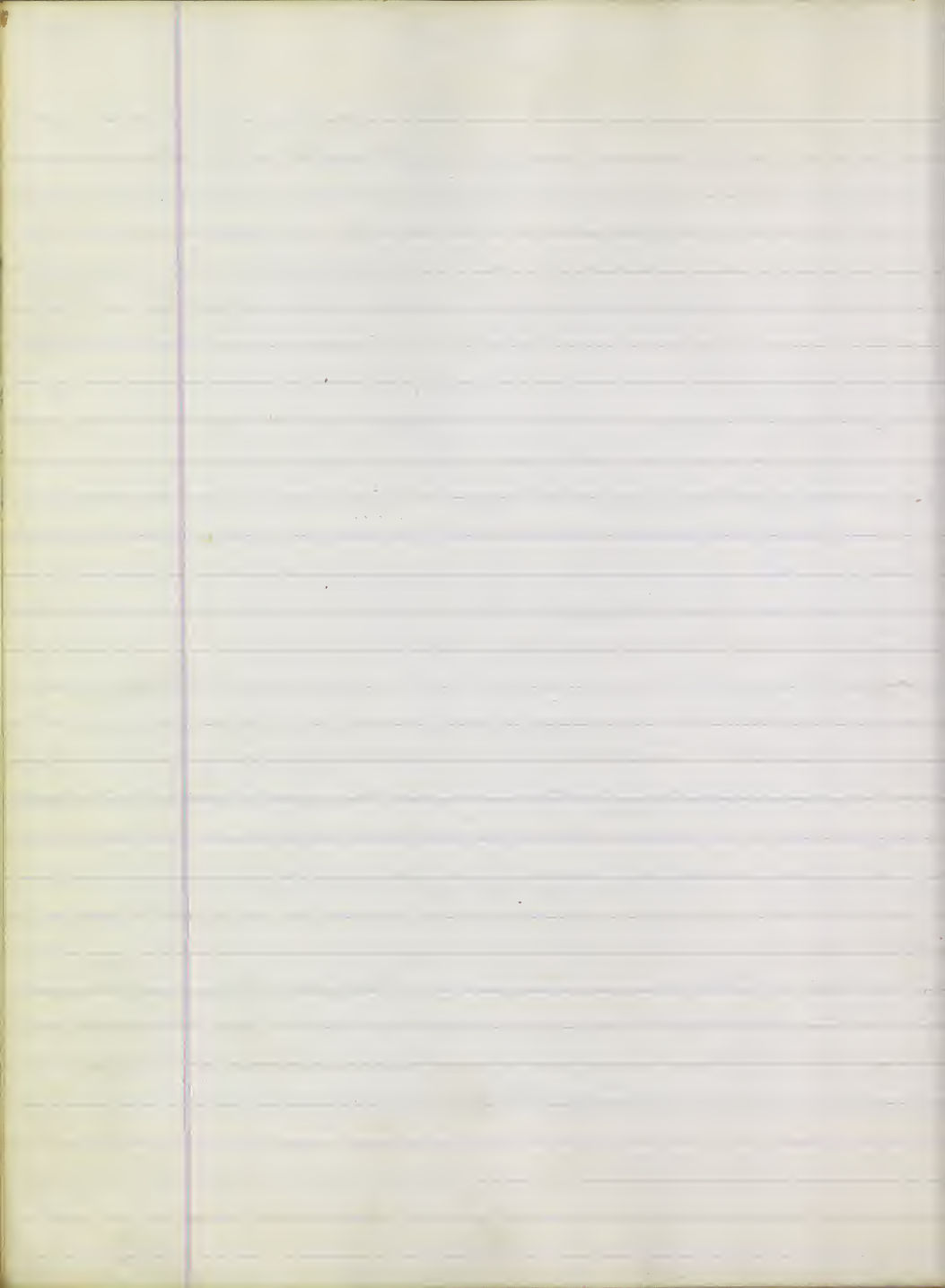
Hab Mass to Pa (GRR)

Ins pl 81  
fig 11. fm GRR fig

mundulus near white *Mrasteria mundula* GRR Tr. A.E.S. 1 p 191. pl 4 fig 35

Hab Pa (GRR)

Ins pl 86  
fig 5. fm GRR fig



# Remigidae Guér

no. 1145 all }  
ross foot.

*Panopoda* (Guér) *Cressoni* Grote P&SP vol 1. — p 346 pl 3 fig 4  
*Cressoni* *Panopoda*

Ins pl 67  
fig 26 Grote fig

Hab Can (Saunders) not common. Md (Grote)

*Panopoda roseicosta* Guér Mor 45.

Lar pl 13  
fig 13.14 Oak Sep Md

roseus easy  
costa side or clip

Larvae extremely active & nimble but taken readily by  
fanning young trees in Sept? (Md)

Ins pl 59  
fig 12 Md

Ins appears the following spring about May

Ins 64  
fig 1. ma May

Food plant Cal?

carneus  
flesh color

*Panopoda carneicosta* Guér. Mor 45.  
*Scaphila scissa* Walk. G&H 2 ToAES. p. 70. 484

Ins pl 59  
fig 14 Md.

Hab Md

af.

*Panopoda*

Ins pl 59  
fig 13 Md.

hor. rubrum red

*Panopoda rubricosta* Guér Mor 45.

Hab Can. (Saunders)

2. deris

W. m.

*Remigia* Guér *marcila* or *disseverans* Guér Mor 45

*Remigia latipes* Guér Can Ent 1. 88  
for history see 175

♂ 85/90  
♀ 85/82

Hab Can,

*Remigia* *hexarty* <sup>a</sup> Harvey

I. 59/13 Md. 85/41 2. 101



*Abelpharon evanida* from the 22  
 Dec. 1881. 3000 ft. high. 1000 ft. 200  
 1000 ft. 2000 ft.

*Abelpharon evanida* ♂ Grate Bull Buffalo Co. Nat. So. 1. 112.

In pl. CXVI. / 22. from Coll. of Mr. Grate

*Abelpharon evanida* ♀ Gr. J. CXVI. / 22.

## Where place?

d. KORTZ  
name of segment  
later  
resembling crastria

*Acontia* (Ach), *crastrioides* Guén. Mon 33.  
*Tarache crastrioides* G&R Tr. & S 2. 78.

Ins pt 44  
fig 1 coll of M. Sanborn  
Man.

repeatedly confusion  
det. -  
apricus sunny or  
leaving the sun

*Tarache* (Hyl.)  
*Acontia biplaga* Guén. Mon 33.  
# *Tarache aprica* Hüb. var. G&R Tr. & S 2. 78.

Ins pt 61  
fig 17 Ma.

Ins pt 69  
fig 34 coll of M. Walsh  
Hlin

Hab. Md. (H.) Hlin (Walsh)  
We are disposed to regard *A. biplaga* as of *Tarache aprica* Hüb. (G&R Tr. & S 2 p. 78)

*Acontia*?  
*Tarache*?

Ins pt 74  
fig 20 coll of M. Walsh  
Hlin.

Hab. Pa. (Merr)

*Tarache* (Hyl.) *apricus* Hüb.  
*Acontia*? *aprica*  
*Tarache*?

Ins pt 69  
fig 35 coll of M. Walsh  
Hlin

Hab. Illin (Walsh)

in Vts., trouble  
pubescens.  
paler, on growing plants

*Aedia* (Hüb.) *fulvipes*. ♀ G&R P&S P. 6 p. 21. pt 5 fig 2.

Hab. Texas (G&R)

Ins pt 71  
fig 7. fm G&R.

growing black or dark *Aedia* *nigrescens* ♀ G. & R. P&S P. 6 p. 20 pt 3 fig 4.

Hab. Texas. (G&R) Ma. T.C.

Ins pt 58  
fig 18 Ma. var.

Ins pt 78  
fig 5 G&R fig

affinis *Arctophila* *deducta*, *Horrearia*.

Insect sent by Dr. Palmer from the Chickasaw  
nation.

Hab. Chickasaw nation. (Palmer)

Ins pt 95  
fig 6 Chickasaw  
nation

affinis *Aedia*

Insect sent by Dr. Palmer from the Chickasaw nation  
Hab. Chickasaw nation. (Palmer)

Ins pt 95  
fig 9 Chickasaw  
nation



agnomonis directly after 4  
optima & aco tea. Nov. 7

~~Agrophila~~ *quadriflora* ? Sant. coll.

Ins pe. 106,  
fig 78.

147

at without  
yrupeor. eros  
a judge or es. am inu  
not in Agre.

*Agnomonia* (Hib) *anilis*? Sprague, Guen. Mar 38.

*anilis* Am Int. 2. p. 26.

Hab Md, (28) - Low violet white with longitudinal row colored lines

Ins pe 53

fig 14 Ma.

(resembles *Doaphila* of Brit. museum)

Sabbatia of Gray or American Centaury. Am Int.

Papa enclosed in a few leaves. Am Int. 2/27.

*Spraguea*.

*Agrophila* (Bdu) Leo Guen. Mar 35

appos field  
pilos pinnu.  
Les a lion

Ins pe 56

fig 2 Florida H.

Ma.

Ins pe 44

fig 17. coll of M. Grote

Hab Fla. Md. (28)

*Spraguea*.

*dama* a fallow her *Agrophila dama* Guen. Mar 35

Ins pe 56

fig 3 Florida H.

Hab Fla (28)

148-21

144 811



*Encephalia hieroglyphica*

183/1. Dr Palmer Lower Calif

*Harveya. campensis* Gots. Bull Buffalo Soc Nat Sc. 1. 126

Transpl CXVI. fig 15. coll of Mr Gots

χλόη, hebes  
αὐτῶν, flower  
ramulosis full  
of sprays or little boughs

*Clonantha (Linn) ramulosa* Guen.

Hab Md.

Ins pl 60  
fig 2 Md.

*Clonantha* ?

Hab Md.

Ins pl 55  
fig 18 Md.

κοσμοῦς ornament  
giles found

*Cosmophila* ?

Brit museum.

Larva found feeding on Okra Sep. Florida  
in garden of Mr Haley & B. J. Allen Tallahassee  
10. Sep hatched up 22<sup>nd</sup> & came out as perfect  
insect 12. Oct. 1855

Hab Fla.

LPS pl 15  
fig 6. Okra & Fla Sep

ἴσιν twice  
παραποῖν wing  
pinastri a mild pine tree

*Lypertygia (Steph) pinastri* Linn

Grate P.E.S.P. 1. p. 218

Mor O.

Hab U.S. Europe (Grote) Md (T.G.)

Ins pl 60  
fig 5. Ma

ἔδος a marsh  
ρυμῶν ὑψηλῶν

*Ephesia Hüf elongatula*. Mor O.

Larva found Sep Md on Oak.

Hab Md.

Lar pl 2  
fig 9. Md Oak.

Ins pl 63  
fig 13 Md.

allied to *Catecata*

εὐαλῆρος  
made of glass

*Hyalinoides virgata*

virgatus spotted or striped.

Larva found feeding on Walnut Md Sep.

Lar pl 12.  
fig 28. Md.

Hab Md

Mr Riley states that he recognizes this figure as the caterpillar of  
*Hyalinoides virgata*. (Riley Ill.)

*Hypseropha monilis* Fab 4/7, Cal.

*Ommalostola Lintneri*. Grote Bull Buffalo Soc Nat Sc 1. 126.  
 Im pl C XVI. fig 16 Coll of Mr Grote



*Pronuba* (Riley) *Yucca bella* Riley. <sup>new sp.</sup> 3<sup>rd</sup> Rep. 1873. 150  
*Yucca mellea*.  
 Fig

Mr. Saco by Riley to fertilize the flowers of the yucca  
 in order to afford edible red pods for the young caterpillars,  
 eggs deposited in the seed pods in June & July  
 are, then generally two but sometimes half a dozen found  
 young caterpillars in one seed pod when fully  
 grown the larvae bore a hole through the capsule  
 drops by a web to the ground and forms a cocoon  
 of earth lined on the inside with silk. Hibernates  
 as larva in the earth. The following June the  
 perfect fly makes its appearance when the yuccas are  
 in flower

L.R. In C.XVI. 1873.

found on	<i>Yucca angustifolia</i>	Colorado
" "	" <i>repens</i>	Texas
" "	" <i>Whipplei</i>	Calif
" "	" <i>filamentosa</i>	Idaho

*Epiloboma lunulacea* Grote Bull. Buff. Soc. nat. Sc. 1. 127.

In sp. C.XVI. fig. 21. from coll. of Mr. Grote.

*Trachea pumipeda* Europe. (Lepidoptera Borge)  
 destroyed by *Phryganea pumipeda* ac. Europ.  
 Hyman ed. pl. 10 fig. 38.

*Trachea flauipennis* Grote

In. pl. C.XVI. fig. 9. from coll. of Mr. Grote.

*Trachea minimacula* Grote

In. pl. C.XVI.  
 2 from Mr. Grote's Collection



? desm

*Protella* Muls.

Lar iniquitous in Gall *Salix brassicoides*  
 Hab Illin (Muls) Muls notes.

Ins pt 69  
 fig 14. 15. 16. coll of  
 Mr Muls. Illin

? desm

*Entilia*  
*Exogonus* Gr. pulcherrimus Gr. P.E.S.P. 4. p. 326

Ins on trunks of Hickory trees

Ins pt 81  
 fig 14 for drawing sent by  
 Mr Gr.

Too plant? Hickory

Hab Hoboken N.J. (Grote), elev. A. Hohenstein.

"allied to *Entilia* Hüb belonging to M. Guérin jani *Euripidae* Gr.

oXiros  
 a mastie tree

*Tschinia* (Hüb) *brassicae*

Ins pt 69  
 fig 20. coll of Mr Muls.

Hab Illin

Trachea  
 Trachea

*Trachea* Hüb ?

Ins pt 94  
 fig 31. coll of Mr Sanborn  
 Mass.

Hab Mass ?

TapaXy  
 confusion  
 candidactes made up  
 or not on fork

*Tarache* *candidactes* (Hüb) Gr. Tr. A.E.S. 2. 78.  
*Acontia* (Goth, *lobilis* Muls. } Mor (Gotha) 33.  
 G.R. Tr. A.E.S. 2. 78 }

Larva found feeding on Ragweed Aug Sep Ma.

Ins pt 16  
 fig 3 Ma.

Hab Florida (Mor) Ma (S.E.) Illin (Muls)

Ins pt 69  
 fig 46 Muls  
 coll.

*delictus* chosen.

*Tarache* *delicta* Gr. Tr. A.E.S. 2. 78  
*Acontia* *metallica* Grote. S.E.S.P.  
*Acontia* *delicta* Muls. p. 779. Gr. G.R. Tr. A.E.S. 2. 78

Ins pt 74  
 fig 20. coll Ent Soc Phil

Ins "Species figured by Smith & Abbott on  
*Hibiscus palustris*.

Hab ? Geo. (Sya)

Loca plant prob *Hibiscus palustris*.

*Acontia* *metallica* Gr. Tr. A.E.S. 2. 78  
 G.R. Tr. A.E.S. 2. 78  
 from Smith. Hüb. coll. Muls. coll. fig. 46  
*Hibiscus palustris* *Acontia* *metallica* f

119

(45. 174)



*Ufus plicatus* Grotz

84/19

Bull. Buffalo Soc Nat Sc. 1. 102

Ins. p. CXVI. fig 10. from coll of M Grotz

*Ufus. Sp.*

89/25

? dens  
horrida frigidus*Hale horrida* Hal Gr HK. Tr AES. 2 p. 79.

Homoptera calycanthata [W. Walk &amp; J. Bethune (n) GR Tr AES 2. 79

Ins p. 61  
fig 26. Ma.*Bab. Md. (29)*

This is not Guenes or Abbot Smiths species + calycanthata does not belong to Homoptera. GR Tr AES 2. 79

*Phalaenodes* Sp. ? Pac. SW No. 14. 229  $\frac{2}{11}$ Lar. fecd. on *Coleoptera*  
from unpublished figures of Dr. L. L. L. L.*Tontreicos* (affinis)

J. 13/22. fm (NY)

*Acontia lupulaga* <sup>L.</sup> Guen. 5/11/10

*Crematostoma coffeellum* Am. Ent. VI. 596 & VII. 48  
punctate 2 chromonous { *Eulophus comostomatus* ?  
4 a can. line in the wings } *Psoralea calif.*

*Crematostoma albella* v. S. Chambers Conyers Ky. 4  
L. Min. in leaves of poplar Am. Nat. VI. 589  
v. C. *coffeellum* alb.

*Crematostoma coffeellum* (B. Rohdendorf) (Maine) Am. Nat. 6 p. 232  
*Elachista coffeella* Guen. <sup>menerville</sup>  
gnash. Kypes a mouth & stops a mouth  
the hairs on the side of its face being so long as to cover  
the mouth.  
Salicifellor live in the leaves of the coffee tree  
when the injury done by it is shown by the  
presence of rust colored blotches on the upper surface  
of the leaf these blotches are sometimes almost  
black in the center  
the pupa is formed in a slender white cocoon  
covered with its ~~own~~ web may easily be found in  
a fold of the leaf.  
the larva moves in the leaf as many as five to 8  
may be found on one leaf. Am. Nat. 6 p.  
332, fig. p. 340 but last fig. p. 602.

*Cosmia ornata* Guen. Lf. feed on oak June 20 pup 26  
5/4/10  
Larva feeds on oak. Ins. pl. CXV/16

Genera in Morris's Catalogue not in other lists  
arranged alphabetically

158

♂ sps soft & only clothed.

*Ubrastola* (Cels.) ~~novae~~ or ovalis Guén. Nov. 35.

88/25 Can

allotripes, foreign

*Ubrastola* (Hüb.) *elongatula* Guén. Nov. 35

*Catocala amica* Walk. #1 B.N.R. 7. A.E.S. 2. 79.

♂ sps. a burning or live coal

*Anthracina* (Hüb.) *coracia* or *cornix* Guén. Va. Nov. 42

? deriv

*Grantisia* (Walk.) *radialis* Gu. Walk. Nov. 24.  
*archa*.

*Bantia* Guén. *olivacea* Guén. Nov. 37.

? deriv

*anthropica* Bdv.

? deriv

*Pasiodes* (Guén.) *perita* Guén. Fla. Nov. 35

myth name *Bendis* (Hüb.) *lunina* Guén. Nov. 33

? deriv

*Lolina* (Hüb.) all *panacea* St. Domingo. P. Nov. 43

? deriv

*Cururgia* (Guén.) *purgata* Hüb. Fla. Nov. 44

exos. beautiful  
wings very

*Calyptra* (Guén.) *paucula* Guén. Nov. 44.

? deriv

*Calyptra* (Guén.) *iter* Nam? Guén. Nov. 33

exos. flies like  
wings measure

*Camptotoma* (Guén.) *umella* Guén. Nov. 43.

exos. flies like  
wings measure  
agrasia-like  
wings very

*Stenoptera* (Guén.) *testa* Guén. Carolina. Nov. 37

*Polia* Bdv.

*Caradrina* *multifera* Walk. Bethune Can. Ent. 1. 85. Hal Can. Nova Scotia. Can. Ent.

exos. 2 sps  
wings or veins

*Caradrina* (Cels.) *larva* Guén. Nov. 40

*Rustic* of Newman 3. 74

*Caradrina* placed by Bethune bet *Hydraxia* & *Agrotis*

? deriv

*Cissura* (Walk.) *phadex* Cram. Va. Nov. 29.

exos. 102  
ornamented

*Cosmia* (Cels.) *ovina* Guén. Nov. 30.

*Cosmia* *trapezina*. (Europe) fem. lays her eggs on Oak. Thoreau. The larvae about  
in May & although doubtless feckly on Oaks they seem to prefer acorn as food denuding entire  
great quantities the larvae of other *Cynoptera* particularly those of *Cheimatomia*  
*humata*. (Newman Entomologist, Vol. 2. 49)

? deriv

*Trymodes* (Guén.) *horea*. exilis or *gelata* Labrador Guén. Nov. 39

partos. <sup>dentatus</sup> <sup>humb.</sup> oikos. habitator

*Diaulocia* (Guén.) *capitata* Guén. Nov. 30.

*Raphia* *moscula* Walk. B.N.R. 2. A.E.S. 78.

*Diploglypta* *pinastri* pl. 60/5. larva very much of Newman. 286. food dock in Europe.

? deriv

*Epuraea* (Hüb.) *onychina* Guén. Nov. 38.

? deriv

*Galgula* (Guén.) *subparvula* or *hepara* Guén. Nov. 37

? deriv

*Glotia* (Guén.) *limbica* Cram. Nov. 29.

120

~~121~~



Morronia vomerina Gr 45/18 md  
Schinia trifascia Reub D 4x19/20 walt

*Adita (Phalaena) chionanthi* Swa — 9 66 f4

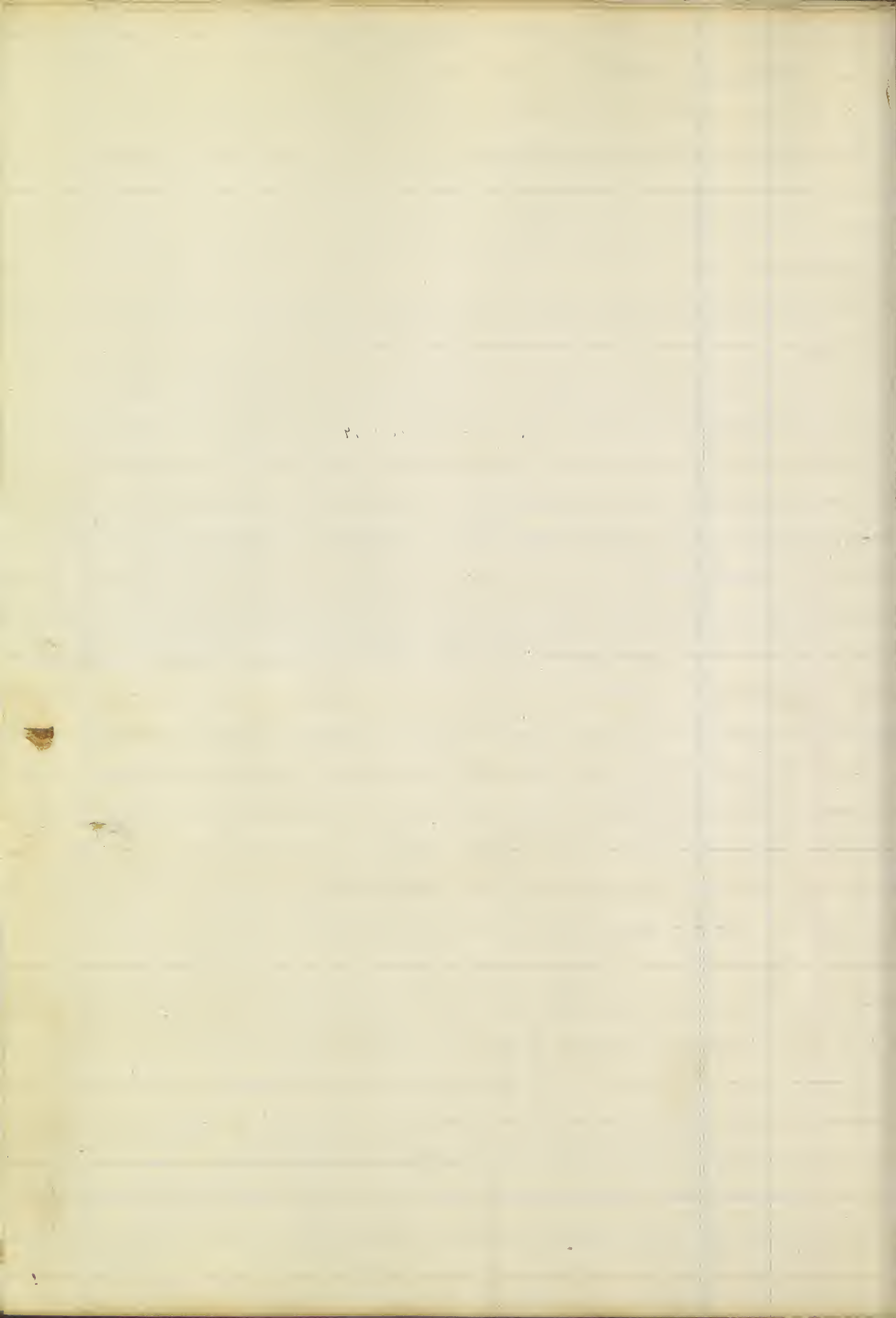
Protella Walsh - 9 4x1x/14, 15, 16.

*Philometra longilabris* Grote J. W. 4x1x17 mm

*Hyphomys quaternarius* Nutt. New H.  
 13<sup>th</sup> m. N. 14<sup>th</sup> m. N. 15<sup>th</sup> m. N. 16<sup>th</sup> m. N.  
 17<sup>th</sup> m. N. 18<sup>th</sup> m. N.

W. H. Fuchs ca











? deni *Palangiooides seminalis* or *negatilis* Walb. Mor appendix or

? deni *Pharyx* (Guén) *vinculum*. Unia. P. Guén Mor 44

? deni *Psophita* (Guén) *dentata* *sylvorum* G. G. Guén Mor 44

some many,   
 pairs to show *Polypharus* (Guén) *versicolor*. Guén. Mor 37.  
*Golia* Wels.

? deni *Freulophia* (Walk), *liburna* Doubled. Mor 33.

some as a diff rock,   
 some body, *Ocephalotoma* (Gutis) *didus* Guén Mor 41

? deni *Scavana* (Walk), *repanda* <sup>Walk</sup> Doubled. Mor 34  
belongs to the *Phalacridae*. G. G. Guén 2. 79

some & some   
 some & some *Taeniocampa* Guén *alba*, *hirsuta*. P. Guén Mor 41

? deni *Tanada* (Walk) *antica* Double Geo. Mor 33.  
No to do with Mor

Some heat *Thermesia* (Lach) *epionoides* Guén Mor 31

Some   
 *Thetia* (Hüb) *chlorophaea*. Hüb Ec. Mor 41.  
*Xanthia* Wels.

Lale, *horriva* Dub.

6/24 LXI/26 no

Tarache











*Pyralidinae* Leach from Westwood.

✓ <i>Hypona</i>	✓ <i>Pyralis</i>	<i>Eurythyrus</i>
<i>Macrochila</i>	<i>Hypophrygia</i>	<i>Mesographa</i>
<i>Pachygon</i>	<i>Agrotis</i>	<i>Margaritella</i>
<i>Paracotax</i>	* <i>Simaelthes</i>	<i>Nasella</i>
<i>Uctinia</i>	<i>Anania</i>	<i>Cynactis</i>
<i>Colobochyla</i>	✓ <i>Emmochia</i>	Nota.
<i>Synaphe</i>	✓ <i>Pyrausta</i>	
<i>Acledia</i>	✓ <i>Hydrocampy</i>	
<i>Camptochila</i>	✓ <i>Endroptis</i>	

\* note. *Simaelthes* is the only genus figured which is not mentioned in Morris Catalogue or Saunders list.

Saunders list

Deltoidea Latr.

Hyponidae H Sch.

*Hypona*  
*Hormisia*

Herminidae

*Blaptina*  
*Herminia*  
*Helia*

Pyralidina Staint

Pyralidae Guén

*Pyralis*  
*Aglossa*  
*Emmochidae* Dup  
*Pyrausta*  
*Emmochia*  
*Aspididae*  
*Herminia*  
*Samia*

Hydrocampidae Guén

Cataclysta.

Margarodidae Guén

Leucochroma

Botyidae

*Botys*  
*Eubulea*  
*Pronca*

Morris' catalogue

Latr. Deltoidea Latr.

*Hypona* Schrank.  
*Revula* Guén  
*Herminia* Latr  
*Blaptina* Guén  
*Helia* Guén  
*Herminia* Guén  
*Planyma* Guén  
*Herminia* Walk.

Pyralidae Guén

*Phacellura* Guén

*Pyralis* Guén

*Aglossa* Latr. and *Pyrausta* *Emmochia*

{ *Rhodania* Guén

{ *Botys* H Sch.

*Botys*.

*Pyrausta*

*Emmochia*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

*Camptochila*

Pyralidae cont.

*Herminia* West  
*Samia* Guén  
*Aspididae* Guén  
*Hyalea* Guén  
*Agathodes* Guén  
*Isoteryx* Guén  
*Stenia* Guén  
*Parthenodes* Guén  
*Epimela* Guén  
*Cinixoides* Guén  
{ *Margaronia* Hüb  
  *Margarodes* Guén  
*Loryodes* Walk  
*Botys* Walk  
{ *Eubulea*  
  *Botys* Latr  
  *Homophrysa* Guén  
*Pronca* Guén  
*Urodes* Guén

Pyralidae cont.

*Scopula* Sch.  
*Myndus* Sch.  
*Myndus* Guén  
*Galleria* Latr.  
*Hydrocampy*  
*Cataclysta* } Pack, Pyra  
*Paraphonyx*  
*Simaelthes*





11. *Hyphalea*

Small body slender & elongated antennae ciliated or but slightly ciliated in males, brown & mandibles small. Labial palpi often greatly elongated, & horreolae but occasionally retracted. Max palpi occasionally developed. Maxilla gen. & mandible head occasionally with a hair or cilia. Thorax med. & v. never ciliated. Wings molt over & generally placed in a triangle when in repose. Anterior wing gen. slightly angulated at the tip, legs occasionally very long. Slightly forked pair of coxae the coxae are nearly as long as the tibia. In some species the fore legs of male with fascicles of hair capable of expansion.

♀ gen. long & slightly hairy; legs vary hairy mostly only 3, but sometimes 4 pair of ventral legs, never geometrical in outline or radioactive nor body densely clothed with hair.

*Hyphena palpi* 2. much longer than the head compressed 3<sup>rd</sup> joint recurved wings ample deltoid in repose anterior oblongate acute. often square inferior anterior coxae very long antennae simple W 105 L distinguish by having only 3 pair of ventral legs W. 408

*Hyphena humilis*.

Wings of the body for many of the cross-veins seem dark color green with 2 longitudinal white lines along the back a dark green line between them in the middle & the line that whitish line on each side of long. head green & thorax with minute black dots. From each of which arises a short hair similar dots & hairs arranged in 2 transverse rows on each of wings (anterior) by a single line 3<sup>rd</sup> joint of the wing formed in imperfect evenness in folded leaf or orange no reason has in loose earth or under leaves. 12 days 234. 0.3. 3. long with flattened feelers, small like antennae brittle, pointed, wings sometimes dusky or blackish brown, sometimes much lighter mostly brown - for many months with gray beyond the middle. a distinct oblique gray spot on tip, crossed by 2 wavy blackish lines, one near the base near the outer hind margin. these lines formed by little elevated black hairs 2 similar left, into wings, hind wings dusky or light brown. pale fringe & thorax dark or light very variable.

*Bomolocha profecta* Gr. I 69/18 Walsh col.  
*Hypena* aff.

*Bomolocha profoveata*.  
*perangulata* Harvey { 69/19 Walsh col.

*Bomolocha torenta* Gr. 72/1.

is - *Hypena scabra* Gr. O.S. 45.  
*Hypena cretalis* Guen. Lenthien 23 Ann. Rep.  
W.S. Cal. nat. his 65.  
I C XV. 14 Lenthien Coll.

*Hypena abalienalis* Walk. CIX/4



Pyralidae Leach. fm West. Pyralidae Latr Pack Guide 326 159  
 Small moths so called from their very long & slender compressed palpi usually grayish  
 in habit & often extremely local they haunt moist grassy places are readily disturbed by day  
 fly before dark while some are true day fliers the larvae are generally known by their  
 remarkably glassy appearance & the few hairs on their body are unusually bristly look many of them  
 Division Deltoidea (St. Mor Cat. p. 45. } cocoon India long  
 Pack Guide 327 } cocoon normal

on a board

Hypena (Schrank) baltimorealis (Guér) Mor p 45. Ins pl 45  
 " madefactalis (") Ins 8. 13 Md  
Baltimorea typhena Ins pl 53  
 Insect rather common Md. "rare Canada" (Saunders) Ins 13 Md  
Cal ma (G.) Can. (Saunders)

"Pyralidae." in some species the males are singularly ornamented with fascicles of hairs capable of expansion  
 hence the species have received the name of "fan-poled moths" West 2 p. 399

elegant

Panographa decorata (Hüb) Gr cor  
Hypena elegantalis Fitch 327. pl 1 fig 3. Mor 0 Fitch Tr V.S. Ag Soc. 1855 vol 15  
 "Elegant" Hypena Fitch n. 539  
Hypena lancea elongata cylindrica with 14 legs feet on  
 low or climbing plants making a slight cocoon among leaves } Ins pl 49  
 Pack guide 327 } 1/3 3. Md June.  
Cal md (G.) Mos (Saunders) Ins pl 47  
 1/3 17. coll of Mr. Santors  
 Ins 1/3 17. coll of Mr. Santors  
 I CXV/q Linnae

Scabrous Hypena scabralis (Fab) Mor p 5.  
 " humuli Har 373. see below.  
 Lar very plentiful in Maryland on Clover in June  
 It appears to be very partial to the flower especially  
 when disturbed springs from the plant  
 Pupae formed in imperfect cocoons under leaves &c.  
 I: CXV, 14. as ovata  
 Food plant Clover (esp flowers)  
 2 Hoops.  
 note "this insect appears to be almost if not quite identical with the following  
 + humuli of Harris"

humuli & the hop Hypena humuli Har. 377. Fitch Tr V.S. Ag Soc. 1855. vol 15. p. 535. Mor 0  
 Hop vine hypena or snout moth (Har) Pack. guide 327  
 Larvae eat holes in the leaves of the hop (Md. 1st June to Aug & all over full size in  
 about 2 weeks. } Ins pl 21  
 Pupae formed in imperfect cocoons in the folded leaves in } 1/3 10 hop July Md  
 crevices or under loose earth on fallen leaves. }  
 Insect taken Aug (Md) } one sp was taken alive in the Dept }  
 double brooded first lot of larvae appearing May & June } of Ag Washington in July. 1870. }  
 the insects of which appear June & July. the second lot }  
 of larvae come in July & Aug. The moth flies in Sep. Pack. }  
 Food plant Hop. I P pl 22  
 1/3 8. hop June Md  
Cal Ma Va (G.) Can. common (Saunders) (I: CXV. 16. specimen sent by Mr. Deane 2. 1871)  
 Ins. has little elevated tuft of scales sitting about 1/3 from the upper surface of the fore wing.  
 as the true humuli but is + humuli 2. 1871

Hypena affinis scabralis. Sa Pomatocha

Cal Illin (Malch)

Ins pl 47  
 1/3 19. coll of  
 Mr. Deane  
 Illin



Specimen from Mr. Conquest, Killary Island N.Y.  
 & named by Grote. See Walker 1879 - as Walker sp.

*Hyphena evanidalis* Rousson

J. CXV. 16. from Coll. of Mr. Lintner N.Y. as *humilis*

*Hyphena* ? *Chytolita*

*morbidalis* Guen

In pl 58  
 fig 1 Md

Hab Md.

Can Saunders

*Hyphena* *cacalis* Walk. } *H. affinis* Walk.  
 ? *cacalis* ? *cacalis* ? *cacalis* ? *cacalis* ? *cacalis* ?

*Perula* (Guen) *propinquialis* Guen Mor 45 pl 78/10. Ill

*Herminia* differs from *Hyphena* in its lighter fore legs the larva is short slender towards each end covered with small hairs it has 16 legs & feeds concealed among dry leaves making a narrow cocoon among them

Pack guide 328

*Herminia* *propinquialis* (Guen) Mor 45

*Renia* Sp.

In pl 57  
 fig 37 Md.

Hab Md. Ill.

*Renia* *calypso* Grote.

LVI/4

?

*Herminia*

In pl 57  
 fig 41 Md

Hab Md (Ill)

?

*Herminia* *Ptyolita*

*pedipalpis* Guen

In pl 58  
 fig 6 Md.

Hab Md.

*Herminia* *crucialis* Guen. Lintner 23 Ann Rp  
 1145 Cat not his 56.

Can Saunders

*Herminia* *crucialis* Walk.

11 *concolor* Walk.

11 *clonialis* Walk.

Doubled Mor

*Herminia* *jacchusalis* Guen Pack guide no. of ser most common spec. Pack guide 328  
 " *jacchusalis* Doubled. of Mor Cat. 45.

*Herminia* ?

Larva from a *Herminia* *morbidalis* Pa. in N.Y.  
 In *Hyphena* ? of Mr. Lintner

*Herminia* *morbidalis* Guen Lintner 23 Ann  
 Rp 1145 Cat not his 65. CXV. 17

*Herminia* *pedipalpis* Guen Lintner 23 Ann  
 Rp 1145 Cat not his 65.





Helia humilis Hüb. Fabr. 17. 257 246

Larva found on *Phlox speciosa*  
for *unipuncta* Fabr. of *Phlox speciosa*

? denis

*Nemophila noctuella* 175  
*Heptina* (Guén) *saucialis* Doubles. Mor 46Ins fig 82  
Fig 12 coll of M. Saunders*Helia* Can. not common (Saunders)  
*Helia phaealis* Guén.L. 12/16. 17. on Oak Md. Jan  
35/147-60/20 md*Helia**Helia* (Guén), *Pyralis* (Zaloch)

later

*Epixuxis* (Hüb) *americana* (L.) Gr & R Tr AES 2. p. 79*Helia* Guén *americana* Guén. Mor 46*Microphya* ? *scripta* Jennis Walk. (Gr & R) Tr AES 2. 79Ins fig 47  
fig 4 Md.figured by Abbott on *Phlox speciosa* (Gr & R)

Hab Md. (L.G.) Can. (Saunders)

Food plant prob ? *Phlox speciosa*

Indian Corn (Grote authority)

Mr Grote states that the larva feeds on "Indian Corn" (Gr note)

A specimen of Moths obtained from a humble bee nest. by J Angus Nov Janus 14  
Can. 1/186*Epixuxis acmulalis* Guén*Helia* — do — Guén Mor 46.Ins fig 83  
fig 27 coll of Mr  
Saunders Can.

Hab Can. (Saunders)

is this not same as *americana*.

H

*Επιξυξίς*  
a joining together  
or uniting  
*acmulis*, *epixuxis*  
or *reveling*

? denis

discolor dis covered

*Stenica* Guén *discoloralis* Guén Mor 46.*Ronia calypagii* Gr. Can. 89/24

? denis

angular

*Clanyma* Guén *angularis* (Hüb) or *asopalis* (Guén) Mor 46Can. Saunders.  
effusus effused. round out*Homocidus* Walk. *effusalis* Walk Mor 0*Pyralidae* Guén. Mor 46.

peradris prop name

*Phacellura hyalinatilis* (Guén) <sup>Lin</sup> Mor Appendix Cat p. 64. & Bn. mus.*φακελλος* a bundle  
of rods or fuses.  
opera tail.*Phacellura* (Guldberg Hal. emend.) *hyalinatilis* (Lin) Mor 46.

Insect taken in Florida

Ins fig 56  
fig 12 Fla.

Hab Jamaica (Mor 46) St Domingo (Mor 64) Florida (L.G.)

*Pyralis hyalinata* Lin (Europe) esp. remarkable for its tasselled tail. Lar 16 fot. is the type of *Guldberg* Mus. genus





nitidus shining

*Phakellura nitidalis* (Cramer) *Mon 46* *Am Ent. 2. p. 31.* *Am Ent. 1870. Vol 4 p. 107*  
but Probable worm of Riley. *9 real cucumber moth Riley 2. 17* *PP 3 pt 17*  
Larvae abundant Missouri doing great damage to  
Melons & cucumbers by eating into the fruit (Riley letter Oct-10 1869)  
Found also in Florida eating into Squashed.  
Ins. sent also from Texas *Food fruit of Melons & Cucumbers (Riley)*  
Missouri (Riley) *Florida Texas & C. Ins said by Turner to feed on*  
*Squash. (Riley)*  
*Potatoes. Am Ent 2/31*

*Phakellura nitidalis* Riley 28 Sep. 67.

Lar mid July until end Sep. No  
as many as found in one cucumber pupa found in  
a slight cocoon of white silk on leaves near the  
ground. Moth appears in about 8 or 10 days probably  
hibernates as moth in the imago state.

### *Phakellura nitidalis*

Found in the garden of old Bull of Tallahassee. In  
in the flowers of the squash vine when it spins a  
loose web, at the bottom of the bloom and by de-  
vouring the pistil & stamens, thus causes the flower  
to wither away & perish without forming fruit.  
Several were found in the stalk of the plant devour-  
ing the interior in a similar manner to the (*Agria*  
*typiformis* the insect destructive to the current of  
the north. one specimen was also found in a  
half grown squash into which it had bored like  
the boll worm of the cotton. (one real boll worm  
was found devouring the pistil & bottom of the flower  
the same as it does on the young cotton bloom)  
the caterpillars changed into the chrysalids. Usually  
in cocoons of silk fastened to strands of leaves or  
anything in the boxes they were confined in  
the moths appeared in 10 to 14 days afterwards  
& I fancy there may be several generations of  
this insect during one season as the caterpillars  
were found of all sizes during June, July & Aug.  
they were very numerous in every garden examined  
& destroyed much fruit.

caterpillar when young flesh col<sup>d</sup> spotted with  
black, when old dull green.

See Woodward. 373. Vol. 2. *Agrioida*

*Pseudoglossa tubricata* <sup>44</sup> 97/32

*Aglossa Lat cupreata*

*Pyralis* palpi 4 labial ascending compressed last joint extends maxillae moderate antennae 3 pedicels wing rather narrow not pointed posterior wings rounded w

*Pyralis* (Linn.) *farinalis* (Har) Mor 46 Harris 475 Pack guide 328  
 larva  
 Meal moth (Har)

larva flour.  
 or meal.

Larva found in old flour barrels where it feeds on the meal or flour

" feeds on straw & corn. Mr Riley has found it living on Clover Ins pt 55  
 found on walls of dwellings where when at rest it } 14 21. Md  
 assumes a very singular position having the wings } Pack guide 328  
 closed & the body bent backwards over the thorax  
 very common in Md. & Va  
 Can. (Saunders) Md Va Ill.

Ins when at rest has its tail curved over its back presenting a very singular form long light brown cross by 2 brown lines of white fourth a chocolate brown spot on base of each H

Har Mass (Har)

Food Meal. Flour.  
 Straw Corn Clover Pack

? *Pyralis* Gr

*Linkemia* *peripetala* Hal  
 Har Fla.

Ins pt 56  
 14 16. Florida

without  
 yellow tongue  
 fungus greasy fat

*Aglossa* palpi 4 labial long horrid last joint extends maxillae almost obsolete anten 8 bifurcate wings white hind margin fringed with white when in repose. West  
*Aglossa* (Latre) *pinguinalis* (Har.) Mor 47. Harris 475. Pack guide 329

Sabby or grease moth Har.

Larvae live in greasy animal substances & frequently found in houses. Feeds on greasy horse clothes &c. Pack

Larvae glossy wing, smoky gray. cross by wavy light colored bands. tongue not visible

Har Mass (Har)

Food Butter Grease.  
 greasy horse clothes Pack

*Aglossa pinguinalis*

" Larva does no little damage to books by fixing itself spinning a web on the binding " Dr. Thomsen. Ann Ent & Bot. 7/1823  
 injures — Books

*Pyrausta*  
*Canace* Saunders *Pyrausta*. *orphialis* Walk. Mor O.

Ins pt 89  
 14 3 coll Mr Saunders

*Pyrausta* (Europe) " are generally gaily colored insects which frequent hedys & revel in the sunshine hovering over grassy spots but immediately settle, as soon as the sun is over clouds. " Met 3. 400

or *Botis* & *maculata* Linn Ex Cor  
*Emphychia glomerata* Walk. CPM Pt. 17. 331 Mor Appendix 68.

Sp fm Coll of M. Sanborn Boston. Man Ins pt. 106  
 14 12. Mass

Har. Nove setis. (Mor) Man?

*Emphychia glomerata* Saunders *Emphychia octomaculata*. See *Alypia octomaculata* w 37 n 46. fig 1. 4 pt. 52 fig 6.  
 color & size  
*Rhodaria* (Guér) *pinicincta* (Hüb) Mor 46  
 (Bolus) (H. Schay)





1. daria  
designs to follow on  
come after

*Herbula* (Guén) *subsequalis*. Guén. Mor 47.  
*Batys* (H. Schapf)

Ins. pl. 51  
fig 26 Ma.

note see also *Batys inaequalis* (Walk) Page 123. pl 44 fig 8  
of which this may be a syn.

*Aglossa* (perhaps) *cuprealis*. Pack guide 329. fig<sup>o</sup> pl 8. fig 20.

cupreous. of copper

Larva does much damage to the old leather bound volumes in  
the library of Yale college by eating out great patches & galleries  
in the leather covers & also in some cases some of the glue &  
pasteboard.

Ins. pl. 100  
fig 40 fm Pack

Leather glue Pasteboard. (123)





*Spilomena Guen lunilinea* C.vi/21.

unspotted

*Asopia immaculata* GHR. Tr Am Ent Soc 1 p 14 pl 2 fig 8 ♂Ins pl 90  
fig 18 fm GHR.

Hab Pa (GHR)

resembling *Anthracina**Asopia anthracoides* GHR Tr Am Ent Soc 1. p 15 pl 2 fig 9 ♀  
*Sabatana oviplegalis* Walk. GHR Tr AES 2. 88Ins pl 90  
fig 20 fm GHR

Hab Mex. to Pa (GHR)

body glass

*Hyalaea Guen cinicalis* Hub Mor 47

? division

*Agathodes Guen monstralis* or *designalis* Guen Mor 471/2 eyes equal  
upper ring*Isopteryx Guen apicalis magnalis* or *stenialis* Guen Mor 47

? EYES narrow

*Stenia Guen ranalis* Guen Mor 47.

rapides a virgin

*Parthenodes Guen xantholeucalis* Guen Mor 47

? oviducts as put

? males black or dark

*conchyloides* *platanalis* Guen  
*Spilomeba Guen striginalis* (G. note)  
? " " *platanalis* Guen Mor 47.? *Xebrosia platanalis* of *But. sensu* v.Ins pl 46  
fig 8 Ha Aug

Insect sent also from Texas by Dr Palmer.

Hab Fla (J.G.) Texas (Dr Palmer) *platanalis* Missouri (Mor)

? semi

*Chiniscides Guen opalalis* Guen Mor 48papapap  
a point*Margaronia* Hub *quadruclymalis* Guen Mor 48  
*Margarodes* GuenCan. Saunders  
Antennae white  
Xanthina color*Leucochroma icinialis* Walk. under *Margarocidae* Saunders list.Ventr. a spear or round  
acutus acutus,*Doryodes* (Walk) *acutaria* H Sch. Mor 62.Ins pl 52  
fig 13 Ind.

Hab Geo. (Mor) Mo (J.G.)

*Doryodes acutalis* Walk is not Guen's genus or sp. GHR Tr AES 2. 79





*Botys*. Larva said by Stainton to be lively, attenuated at each end & semitransparent with warty spots. It feeds in rolled up leaves, the pupa is elongate smooth enclosed in a slight cocoon among leaves." Poels quite 331

*Botys*. Shepherd  
or Henderson. Ogan

*Botys* (Lar.) *adipaloides* GHR. Tr AES 1. p. 26 q. pl 2. fig 19. ♀  
*Sabana claudis* Walk. GHR Tr AES 2. 80

Hab NY (Miss) Atlantic Dist. Mass! to Texas! (GHR)

*Botys citrinus* or  
a lemon color

*Botys citrinus* GHR Tr AES 1 p. 23. pl 2. fig 19. ♀

*Spilotes herculeus* Walk. GHR Tr AES 2. 80

*Botys thymalis* Walk. " " " "

" *apicalis* Walk. " " " "

Hab NY! Pa. (GHR)

Ins pl 72  
fig 12 coll of M. G. R. Wey.

*Botys gutta* yellow  
?

*Botys flavicollis* Guen Mor 48.  
*clavicornis* erron. ? in label

Ins pl 63.  
fig 14 coll of M. G. R. Wey.

Ins pl 72  
fig 7. coll of GHR Wey.

Hab NY. (GHR)

*Botys cinerea* why.

*Botys cinerea* GHR Tr AES 1. p. 18 pl 2 fig 13. ♂  
*Rhodaria* GHR ms.

Hab Pa! (GHR)

Ins pl 90  
fig 9. coll of GHR

*Botys coloradensis* GHR Tr AES 1 p. 25 pl 2. fig 18 ♀  
*Colorado Botys*

Ins pl 91  
fig 14 fm GHR pl.

Hab Colorado (GHR)

*Botys dasconalis* Walk.

ment? GHR Tr AES. 1. 26. in connection with *Bombyx*!

Hab Mass Pa. (GHR)

Ins pl 70  
fig 5. coll of GHR.

*Botys albis* deep

*Botys albis* GHR Tr AES 1 p. 19 Pl. 2 fig 16 ♂  
*Rhodaria* " GHR ms

Ins pl 90  
fig 16. fm GHR ms.

Hab Louisiana Cuba (GHR)

*Botis communis* L.

I 73/12.

Inc

125.



generous

*Botys generosa* GHR Tr A&S 1. p 20 pl 2 fig 10 ♂✓  
Hab Pa (GHR)Ins pl 91  
fig 10. GHR pl.

gracile

*Botys gracilis* GHR Tr A&S 1 p 25 pl 2 fig 15. ♂*Botys ronalis* Guin su GHR Tr A&S 2. 80*B. affellusalis* .. *strictalis* .. *obtusalis* Walk su GHR Tr A&S 2. 80.✓  
su *Alpharomati*

Hab Mass to Pa (GHR) Lep. (Dodge)

Ins pl 48

fig 8. coll of Mr Mendenhall  
Ms.aff. Ins pl 73  
fig 13. Coll of Mr Dodge Lep.

haruspex &amp; divinus

*Botys haruspice* GHR Tr A&S 1 p 19 Pl 2 fig 4 ♂*Pyrausta haruspice* GHR Ms." *sumptuosalis* Walk.

Hab Mass to Pa. (GHR)

Ins pl 43

fig 17. Coll of Mr  
Mendenhall Ms.*Botys illibalis* Hüb (Gr. auth)  
" *euphaesalis* Walk. GHR Tr A&S 2. 80.  
? *Scopula illibalis* Hüb Mor 49.Larva eats the parenchyma of the fringe tree webbing itself  
up in the leaves

Pupa found in webbed up leaf. July.

Hab Ma (JG)

LPS. pl 52  
fig 6. Fringe tree Mo  
Inq.Ins pl 20  
fig 11. Ma Sep.

insular

*Botys insularis* GHR Tr A&S 1 p 24 pl 2. fig 24 ♂

Hab Cuba.

Ins. pl 91  
fig 17. fm GHR Ms.insequor to follow  
after*Botys subsequalis* Guen GHR Tr A&S 2. p 88.*Herbula replatalis* Walk. (GHR) Tr A&S 2. 88Ins pl 44  
fig 5. Canada Mr Norton Coll.

Hab Can. (Norton &amp; Saunders)

Ins pl 51  
26Note Ins pl 44 fig 8 is very similar to *Herbula subsequalis* p. 123 pl 51 fig 26.

Bapt. sp.

Rock Gr. NW 229  $\frac{2}{12}$ 

Larva sp. - 1st stage

for unpublished figures of North &amp; West

Bapt. sp.

Rock Gr. NW 229  $\frac{2}{13}$ 

Larva sp. - 2nd stage

for unpublished figures of North &amp; West



*Botys octomaculata**Emyschia glomerata* Walk. GHR. In A.E.S. 2.79. is this *Alcyon* sp. m. p.latus broad  
clavis a key to lat.*Botys laticlavus* GHR. In A.E.S. 1. p. 17. pl. 2. fig. 12 ♂*Rhodania laticlavus* GHR. m. p.*Rhodania typalis* Walk. ♂ GHR. In A.E.S. 2. 79.Ins pl. 72  
fig. 18. coll. of M. G. B. & R.

Hab Pa. (GHR)

*marculus*  
a little hammy*Botys marculenta* GHR. In A.E.S. 1 p. 23. pl. 2. fig. 21. ♀Ins pl. 91  
fig. 15. from GHR. m. p.differs from *B. citrinea* by its larger size paler color. indistinct ornamentation  
by the presence of 5 submedian lines of both wingsplectilis that is  
flattish or rounded together*Botys plectilis* GHR. In A.E.S. 1 p. 27. pl. 2. fig. 17 ♀

"a common species variable as to size (GHR)

Ins pl. 48  
fig. 24. coll. of M.  
Meade mayne M.Ins pl. 72  
fig. 18. coll. of GHR.

Hab Pa. (GHR)

*Botys rufalis* Guen.*Botys laealis* & *cinclupedalis* Walk. GHR. In A.E.S. 2. 80 & 88*Botys posticata* GHR. In A.E.S. 1 p. 22. pl. 2. fig. 25 ♂Ins pl. 91  
fig. 14. from GHR. m. p.

Hab Pa.

*Botys rufalis* Guen.  
*affinis* Walk.GHR. In A.E.S. 2. 80 This is *Botys gracilis* GHR. which see.signatus  
signed markings*Botys signatus* Walk. GHR. In A.E.S. 1 p. 16. pl. 2. fig. 11 ♂*Rhodania signatus* Walk. GHR. In A.E.S. 2. 88Ins pl. 72  
fig. 14. Coll. of M. G. B. & R.

Hab Mass to Pa. (GHR) Pa. (Railway) GHR.

*Botys laealis* Walk. GHR. In A.E.S. 2. 80.*Samia laealis* & Walk. m. p.

under belly

*Botys ventralis* GHR. In A.E.S. 1 p. 20. pl. 2. fig. 6 ♂Ins pl. 41  
fig. 8. M. G. B. & R.

Hab NY to Pa. (GHR)

Ins pl. 72  
fig. 17. coll. of M. G. B. & R.*Botys* ?

Hab NY (M. G. B. &amp; R.)

Ins pl. 43  
fig. 23. coll. of M.  
Meade mayne M.? ~~laxa~~ aff. *Orabaena stramentalis* Tr

Hab Ma. (G. S.)

Ins pl. 55  
fig. 9. M. G. B. & R.

Bots (Boty) socialis Gr. 89/13  
Bots " dissimilis Gr. 89/14

? *Botys*

Larvae fed on Thistle & webbed up Oam Md.  
 Hab Md (H)

Ins pl 66  
 Fig 4 Md

*Botys* ?

Hab Illin (Walsh)

Ins pl 70  
 Fig 1. coll of M Walsh.  
 Illin

*Botys* ?

Hab Illin Walsh

Ins pl 69  
 Fig 12 coll of M  
 Walsh Illin

*Botys* ? *canalis* Guen.

Hab Illin Walsh

Ins pl 69  
 Fig 44 coll of M Walsh.  
 Illin

*Botys* ?

Hab Illin

Ins pl 69  
 Fig 45 coll of M Walsh.  
 Illin

*Botys verticalis* Albini Pack. guide 330

Larva feeds on Nettle Food plant Nettle.

*Botys syringae* Pack. on Age of Man. 1869-70, p. 250 descr  
*Lilac* bolls.

Larva bores a passage about 2 inches in length through  
 the pith

Cocoon spun of fine pith chips lined with silk inside

Ins. 2<sup>d</sup> June

food pith of *Lilac*

*Botys syringicola*

Pack. Man. of Rep. 1870  
 Am. Nat. 18. 685

Larva bores in pith of *Lilac* in  
 New York.

Phycita nebulo. Malb. Am Ent. 1. 99

Russet leaf crumpler.

Can remain on trees all winter &amp; finish up their feeding the following spring &amp; change into moths about mid July.

Apple crab Apple

Remedy. pick off the masses of crumpled leaves in the winter &amp; either burn or crush them

Orobasis Hammondi N.S. Am Ent. 2/32

Hammonds leaf tyer.

L. 16 has half inch long green with a dark brown stripe on each side extending the whole length of the back. These larva tie together the leaves with silken cords, forming a mass of considerable size in which they live gregariously & detaching the leaves that they have thus appropriated filling them with their greenish like excrement.

# 30 Min.

Food plant. Apple

Phycita acrobasis nebula Rothum. R. T. Glass. 1870 Ontario.

Case resembles a long miniature horn made at one end tapering almost to a point at the other. Frequently twisted in a very odd manner. These are generally horridous of dead leaves around the case so as partially to conceal it. The case itself is made of silk interwoven with its own excrement. It is on outside of a yellowish brown color.

Remedy pick off &amp; destroy in winter as the cases are generally concealed under or on leaves they can readily be found.

Phycita nebula

destroyed by a (canista) phyci  
Van Johnson

Acrobasis juglandis. Riley to the Pub. 42 Walnut Case borer.  
Phycita prob. but one brood annually & the larva passes the winter in a partially grown condition when about to pass the winter it abandons the leaf & anchors its case to the mass entering before winter sets in.

Parasite, &amp; distinct Ichneumon this one a purple &amp; small Perithous undagator. - a yellow fly.

117/10

Crabambus ? (affinis ulata Europ. Brit. Mus)

Ins pl 51.  
fig 10 Ma

Hob Ma (H)

Crabambus exocatus Zeller

55/9, Can

C. angustata. Drury.

C. angustata. Drury. 50. 1860 p. 217. 1/1857. 2. 418

? C. angustata Drury.

Ins pl 51.  
fig 35 Ma.

Hob Labrador (Clew) Ma (H) Can (Saunders)

Crabambus ? (affinis uniforniatus of Europe in Brit. Mus)

Ins pl 20  
fig 10 Ma Sci

Hob Ma (H)



Vipera aspidomachus

Nephroteryx

Pack Guide 331.

261  
1780

Urobaea consociatella Teller. Rely. 4th Rep. 15.  
I work on leaves of Oak in Europe the same as  
Larva found in a rough crooked case formed somewhat like  
a room horn in the thorn (Washington D.C. Dec.) remains on tree  
all winter & feeds up food in the following spring.

bee. cells. Humble bee

Vol. 19. 219. ?  
Pack Guide 331. Am Ent. 1. 99. "on Ent. 31  
doubt. P. Post. sec. Nat. Hist. 4. p. 32.  
Belgium Rely. 4th Rep. 15. 1870 p. 90

Nephroteryx Edwardsii. Lep. Pack. 131, 198 331  
Larva fed in cells of humble bee  
antennae & joints of legs  
very narrow. Parasite. Microgaster Nephrotericoides, Pack

about end of June  
little crooked horns or cases lying  
the twigs on which it feeds. In  
the pupa is formed June  
when the larvae have  
their silken cases & change to  
Insects. 70  
fig. 1. 16  
fig. 1. 16  
fig. 1. 16

Parasite. Johnsson  
undermines.  
Mr. Riley in Am Ent. 2 p. 307 says "the  
larva feeds from American  
physalis, a variety of Rock Island  
only one based on (see 6)

Food plant. Thorn (Lg)  
Apple, crab. & Plum. Walsh.  
? Hickory Am Ent. 2. 307

Pha. grossularia (Pack) Saunders Rely. 4th Rep. 15.  
this pest by Saunders 1885  
was it, was into the berry. Saw it numerous in mi-  
other being the stems of some of them is that they may  
easily be drawn into any requires position. the  
making but one hole in the berry & comes out of which  
larva. Insects, which sometimes accumulates in a little  
around the berry.  
forms bulks ground in a little silken cocoon  
of leaves. Graham about 1870. June where it remains  
the following spring. fruit remains recognizable  
its becoming discolored. Insects presumably  
Gooseberry Currant etc white black

Conver 1. p. 89.  
Pack. Rely. 1st Rep. p. 146. At 2 fig. 17. Pack. guide 331  
prob. Gooseberry. Mother of Fitch to N.Y. Soc. 1856. vol. 16. p. 487  
to inside of one berry leaving a hole for the passage of its  
mother berry making a passage way of silk until it passes  
inwards 1 or 2 or 3 goes berries as the case may be  
and sometimes more but more generally the hole  
cut web like silk shrivels up & hangs on the bushes  
in the leaves. It is visible on the ground only as  
pupa. In June I saw appear the following spring  
in 8. Paul Pempelia longirostris or pubescens. (see 50)  
Food Plant. fruit (Gooseberry & Currant.)

Crambus. abundant in summer in grass & det.

its long narrow  
larvae has 16 legs  
on moss in  
on the eggs  
together with  
it also feeds on clover

Pempelia. Hammondii. Rely. 4th Rep. 14.  
Apple leaf skeletonizer. or Hammondii. Rust horn  
I feed on the pulpy parts of the upper surface of leaves of the  
Apple tree leaving the ribs unharmed. The worms are very numerous  
either living alone or in company within a bunch of leaves torn together  
they always cover the leaves with loose tender silken threads  
mixed with little black granules like coarsest flour. These  
leaves injured by these insects present a corrugated blighted rusty  
look, which can be observed at some distance  
Insects. grayish purple with 2 transverse pale bands  
pavates. 2 small ochraceous flies one of which is a microgaster  
& a Chrysope.

Grass Clover  
they generally abound  
Insects. 56  
fig. 5. coll. Ent. Soc. Phil

Pempelia Hammondii. Apple leaf skeletonizer, Rely. 4th Rep. 14  
locate themselves on or near the end of the twigs in communities  
of from 3 or 4. to adorn a spoon of a dwelling place by webbing together  
a quantity of leaves with a material like spiders web. within this  
shelter they live feebly upon the leaves

Insects. 57  
fig. 10. Ind.

Wal. Mul. (Lg) Saw (Saunders)

126



mungos, little or small X. p. 5005 gold.

*Urola microchrysellæ*

*Urola microchrysellæ* Walk. GGR to A & S 2. 83  
or *Calharylla nummulalis* + Zellw. (nec Hüb)

*Urola subacnescens* Walk var  
*Urocyra microchrysellæ* Walk.

*Urola* <sup>Walk</sup> *nummulalis* Hüb. GGR to A & S 2. 83.  
*Urocyra* <sup>Hüb</sup> *nummulalis* Hüb.  
*Calharylla fusca* Zell Chil of Cram

*nummulalis* a little mungy.

(Europe)  
Chilo allied to *Crambus* but the palpi are much longer & the larvae live in the stems of reeds  
(they naked with the head & prothorax hairy & polished with 6 pectoral & ventral & 2 anal feet)  
The moths are found in boggy & marshy places. West. 2. 411

*Chilo* <sup>Chilo</sup> *divisus* } *aquilus* dunn color or sunburnt.  
<sup>not name</sup>  
*Chilo* (Zenck &) *aquilellus* Clem coll Ent Soc Phil

J. pl 76  
fig 6 coll Ent Soc Phil

*Chilo* sp.

Hab Md (JG)

Jns pl 58.  
fig 21. Md.

humming bird,  
too brown bill or snout.

*Crambus colibrirostris* Saunders Coll.

Insp. from Mr Saunders coll. Can.

Hab Can (Saunders)

Insp. pl. 83  
fig 5 coll of Mr Saunders

*Crambus girardellus*  
*girardus* *crambus*

Insp. pl. 44  
fig 10. coll of Mr Grote NY

Hab W. (Gr) Can. (Saunders)  
*Crambus interruptus* Gr

inornatus  
unaborned

*Crambus inornatellus* Clem P & P. 2. 1814.

Hab Labrador. (Clem)

~~*Crambus* *sex set*~~

?  
intermix to these

*Crambus* (affinis *interminellus* of *Brill mus*)

Insp. pl. 57  
fig 15. ms.

Hab Md (Gr)

*Crambus runcicollis* Tull. Can

83/6

marked wings up  
or folded in

*Crambus inornatellus* Lachellus, ~~Field~~ *Linckes*

Insp. pl. 70  
fig 12. coll of Mr Walsh  
Hill

Hab Illi (Walsh) Canada (Saunders)

*Crambus minimellus* Clem 70/16

some with

*Crambus sinicellus* Saunders Coll.

Insp. pl. 83  
fig 4. coll of Mr  
Saunders Can

Hab Can (Saunders)

?  
half  
faded. on  
specimens

*Crambus* (affinis *semifusellus* of *Brill mus*)

Hab Md.

Insp. pl. 57  
fig 4. ms.

vulgaris  
wandering.

*Crambus vulgariellus* Clem

Hab Can (Saunders)

Insp. pl. 83  
fig 8. coll of Mr  
Saunders Can

*Crambus* *Tab minimellus* Clem 70/15. Ill

Gr

*Crambus sexseriatus* Gr

83/2 Can

*Planca eunusalis* Walk. *Mar. Covr.* 322.  
Boty. <sup>9</sup> Har

Oct Nov found on leaves of Horse radish. I eat large holes leaving finally only the veins untouched they line beneath the leaves stretched out by the sides of midrib. Found Oct on Turnip leaves, cuttings very considerable

♂ back dk purple brown. a broad bright yellow streak on each side on the line of spiracles all beneath yellowish green. head shiny black. Har.

Har (Mar)

Good plant. Horse radish & Turnip.

*Planca* } *stramentalis* (Hüb) Gentur 23 Ann  
I. C. XV. 10 (distans only) Rep. 284 & cat nat. no. 65

*Achnaia alvearia*. Emmerbach 128. Fly's Neph  
Neph. Lep  
Lar. does much harm to the honey bee  
by consuming the wax & thus breaking down  
the cells & by filling the hive with their  
webs.

*Galleria cerana*. Lar. body soft tender yellowish white sprinkled with a few brownish dots furnished each with a single short hair; head brown & shaggy. Brown spots top of 1st seg. 1. 80

Im. male dusky gray forewings glossed & variegated with purple brown on outer edge a few dark spots near inner margin & collected or notched inwardly at end. hind wings light yellowish gray with fringes of white female much larger & darker colored fore wings longer not so deeply notched on the outer margin or turned up at the end. more purple brown sprinkled with darker spots. hind wings berry or grayish white 1. 10. to 1. 40.

- " (Europe).  
Galleria inhabit the nests of bees the larvae feeding on honey & forming galleries in the honey comb. 2 species. *Galleria alvearia* Fab. & *G. cerana* Linn neither in the common hive & occasionally in such numbers as completely to destroy it enveloping the comb & many of the bees in the webs spun by the larvae. The species of *Elythia* also fed upon the honey collected by Bombs. (Humble bees) & occasionally in numerous colonies. (West. 2 p. 411) whence the specific names *Sociella* & *Coloniella*  
can *Aphonia* } p. 150 belong to *Elythia*.  
*coloniella* - }

*Galleria*  
*cerana*  
honey comb  
moth

" a lighted candle is recommended to be held before the hole of the bee hive that the moths flying out to the light may be burnt but this is labor in vain for the female does not leave the hive till she has laid her eggs and it is only supernumerary males that perish in the flame. Kollar  
mention my own plan of pieces of hollow reed, &c.

? *denis*  
*Eubalea* Guen *fumalis* & *testialis* Guen. } *muscularis* Walk. Mor 49.  
*Botys* Lat. } Can. Saund.

? *denis*  
*Homophysa* Guen *glyphyralis* Guen & *sesquialtralis* Hub. Mor 49.

? *denis*  
*Pionia* Guen *remosalis* & *scripturalis* Guen } *remosalis*, *olealis*, & *deionalis* Walk. Mor 49.  
*Saunders* } Can. Saund. } Can. Saund.

var. *saundersi* all  
 xpa 97. *laevigata* G & H Am Lyc nat Hist N.Y. p 33. pl 16 fig 7.  
*Pionia* Saunders label.

In pl 45  
 fig 7. Canada. Wiley

Hab Canada (Saunders)

In pl 83  
 fig 29. coll of M. Saunders  
 Can.

? *denis*  
*Asciodes* Guen *interstitialis* Guen Mor 49

? *denis*  
*Spilodes* Guen *helialis* & *muscaecalis* ? Walk. Mor 49.

*Scopula* *denis*  
*Scopula* Sch. *ilialis* Hüb ? see *Botys* *ilialis* p 125. Mor 49.

*Scopula* *rubigalis* Guen *oratusalis*, *nestusalis*, *theonalis* & *distinctalis* Walk. Mor 49

*Nymphula* *denis*  
*Nymphula* Sch. *similis* Guen Mor 49.

? *denis*  
*Neogna* (Guén) *reversalis* (Guén) Mor 49.  
*reversis* *tetras*

In pl 76  
 fig 8. Coll Ent Soc Phila

var. *saundersi* all  
 xpa 97. *Galleria* (Fab.) *cercana* (Fab) Mor 50 Harris 489. Riley 1<sup>st</sup> Rep. Mo. 166  
 Max moth. Bee moth Har  
 Am Ent 1. 266. - Pack guide 332  
 4. 128

Larvae eat the wax in beehives & make long yellow tubes covered outside with wax & feces to protect themselves from the bees. They come partly out of this case at night to devour the wax. Eventually if not disturbed they fill the hive with their jelly web which in many cases annoy the bees so much as to cause them to stop working or to remove the hive. The larvae attain full size in about three weeks, 2 or more broods appear annually in Ind.

In pl 52  
 fig 4. Mo.  
 In pl 86  
 fig 7. Mo.

Pupa formed in strong oval pods or cocoons generally in or about the hive

Ins. those coming out early in the summer become moths in about 14 days. Late broods hibernates in the hives in cocoons. Ins. introduced from Europe

they lay their eggs at evening when the bees are resting. Food Bees wax  
 Hab Can (Saunders) NY Md Va Ill

\* *Galleria* is placed by Westwood among the *Tineidae* of Stephens.  
 " " " " " *Tineidae* (Crambidae) Har 489



*Caprocapra*  
 1. inhabits mountainous areas formed of porphyry of granite  
 sides of bodies in some species being furnished with  
 elongated filaments to extract oxygen from the  
 atmosphere. W 2. E 400.

4. *Cyprina* & *Pteropoda* live in the water upon aquatic plants & secure themselves in cylindrical leafy cases fitted to cover the whole body except the head & six legs & make air tight these cases prevent the water from getting into the lateral breathing holes of the lateral pectoral & contain a sufficient quantity of air for them to breathe with them they can easily move about under water the surface upon the plants which were then for food. some of the aquatic kinds do not make these air tight cases for they do not need them as they breathe through fringed gills placed along the sides of their lobes. Har. 476



Up water  
about 7. caterpillar

Up near  
river E.  
a short of hnd

not after Samia.

*Hydrocampa*. & its allies are exceedingly interesting from the aquatic habits of the larvae which resemble us of the Cloddy worms. Pack Guide 330

put *Cataclysta* here —

*Parafonyx*. Larva provided with branchiae & spiracles the pupa residing among leaves under water. Pack guide 330

*Parafonyx allomialis* Walk. Mos. Afr. p. 66.

*Hydrocampa* Pack Guide 330 (Geminata) Linn. 97/27? Can

Larva rather thick attenuated at each end with a black head it is aquatic living in a flat case under the leaves of water

Like the pupa resembles that of *Cataclysta*

Europe *Hydrocampa* & its allies frequent aquatic plants upon which the larvae feed. Inhabiting movable cases formed of portions of the plants, the likes of the baby of the larvae in some species being furnished with elongated filaments employed in extracting the oxygen from the water. Met. 2-400

food plants Water Lily.

181

*Cataclysta*. Larva elongate with a pale head & is aquatic feeding beneath the leaves of the Duck weed living in a cylindrical silt-like case covered with leaves the pupa has a long ventral projection & is enclosed in the case of the larva. Pack guide 331

*Cataclysta annulata* Walk. Saunders list under *Hydrocampidae*

annulata  
to minute

Ins "not uncommon at London & Grenaby Can." Saunders.

Ins pl 83  
fig 10. coll of M Saunders  
Can.

Not Can

*Cataclysta fulvicollis* Clem Pack guide 331.

Not Ill. Walk.

Ins pl 69  
fig 27. coll of M  
Walk. Ill.

*Parafonyx* Larvae provided with Branchiae & spiracles pupa resides in a cocoon among leaves under water. Pack guide 330

What

*Simoesia* *Simoesia* Har. #75.

grows on water  
larvae annual.

flies by day & may be

found running in circles on the leaves of trees & shrubs exposed to the hot sunshine

*Simoesia*. 2 half short ascending maxillae long antennae slender situated in 8. long broad white anterior & posterior dark spots. Met. fly by day. Vibrate slightly on a leaf whilst round & round in a circular direction with head in centre. When returning a contrary direction

Ins pl 20  
fig 4. M.

*Simoesia*. ("Europe") fly by day even at noon settle on leaves exposed to the sun their motions being very curious moving sideways & in a circular direction & when they have completed the circle returning in the opposite direction so as to complete the circle the contrary way. Met. 2. 200.

Note *Simoesia* is placed among the *Pyrallinae* of Leach by Westwood. In Har. The motions of *Simoesia* are very curious when they alight upon a leaf they wheel round & round in a circular direction with the head in the centre of the circle. When return in the contrary direction & repeat these gyrations several times in succession. Har. #75.

*Eutrapela transversata* - Grassy Subsp. Ang.  
Lentice 23. Ann. Rep. N.Y.S. Lab. and Mus. 64  
CXV. 9. coll. of Lentice



[illegible]



## Geometrinae Saint. (Saunders)

Ourapterigidae (Saunders)

Ourapterigidae (Morris)

cupa tail.  
trisp. ring. }? dim  
transverseChorodes (Guin) transversata (Gray) Guin Mor 54. Pack in Ag of Man. Hunt 1849.70  
? Chorodes Saunders list. h. 203? Cross lined Chorodes (Pack)  
Lar. gonata (Gr. Coll, Mor 54)  
Lar. found feeding on Currant by Mr J W Putnam (Pack) in pl 53  
Lar. found resting on 100 Maple leaves  
Bapa found in a loose silver cocoon Pack. guide 319  
within a rolled up leaf (Pack)

Hab. Ma. (J.G.) Man (Pack) Currant Maple

Went  
Canada  
Tutilla an angle

? Chorodes gonata - Guen see Tetraxis crocillata P. 129x

transposed

Chorodes <sup>versata</sup> ~~transposita~~ (Walk) Saunders coll Mor O.Ins pl 53  
fig 31. coll of M Saunders  
Can.\* Ins pl 53  
fig 37 coll of M Saunders Can

Hab Can (Saunders)

\* "probably a variety of C. transposita which is a common species near  
London Canada & subject to much variation" Saunders notes.floridus. gay  
in flower~~Chorodes floridus~~ Saunders coll.

Larva feeds on Willow

See Melanema

Ins pl 53  
fig 35 coll of Mr  
Saunders Can }

Hab London Can. rare (Saunders)

Food plant Willow (Saunders)

?

Eutrapela transversata  
~~Chorodes~~ ? Hab Md.Ins. Cl  
24 Md

Chorodes ?

Ins pl 62  
fig 23 Md

Hab Ma. (J.G.)

is well  
represented variable  
climatis a plant

Chorodes, Guen (Gr. coll)

Eutrapela climataria S &amp; A G &amp; R Jr A &amp; S. 2. p. 80

? Chorodes transducens. Walk. G &amp; R. Jr A &amp; S 2. 50

♀ " transperens Walk. G &amp; R. " " " " "

? Hemerophila unitaria H &amp; Sch

Eutrapela (Hub) climataria (Hub). Mor 54 S &amp; A pl 101.

Great hook tip looper moth (S &amp; A)

Lar pl 11  
fig 14 for S & AIns pl 55  
fig 23. MdIns pl 96  
fig 25. 26. coll of M  
Saunders Canabove with small hump on 7<sup>th</sup> seg ment looks like  
flea branch.  
Four colors blended with a better shade & a line of black  
on back in one side with white from rear the looks like  
the same many lines extending across the under side  
a dorsal

{ Larva

{ from 23 June. Ins appeared 10<sup>th</sup> July & sucks

{ blossoms of flowers &amp; Geo (S &amp; A) Food plants Alder Climatis Sassafras (S &amp; A)

{ at night

Hab Ma (J.G.) Geo (S &amp; A) Can. (Saunders)

? dim

Acrosemia (C. Sch) decurtaria (H &amp; Sch) Mor 54

(121)



Morris. List p 55  
 Fam Ennomidae (Guén.)

*Apicia* Guén  
*Micosema* H Schaf.  
*Hemioptis* H Schaf.  
*Prionocyla* Guén  
*Epione* Dup.  
*Sycea* Guén  
*Angerona* Dup.  
*Hyperitis* Guén  
*Nematocampa* Guén  
*Enropaia* Guén  
*Metrocampta* Latr.  
*Ellipia* Guén  
*Catenodes* Guén  
*Tetracis* Guén  
*Eurymene* Dup.  
*Enthemis* B & F. Guén  
*Metanema* Guén  
*Ennomos* Guén  
*Eugonia* H Sch.

Fitch 1869

♀ 4 Sol *Prionocyla johnsonaria* Fitch to W. G. S. 1869

12th Aug. 1869  
 In yellowish brown forewings with a central black dot & several obliquely with distinct blackish line hind wings faint brown line & a blackish line  
 8" width 1.35.

*Prionocyla armatoria* H Schaf. p. 127

Lilac measuring various Fitch. W. G. S. rep. 1869.

Feeds on lilac by night & during the day.

*Prionocyla armatoria* H Sch. Saunders. Rep. p. 127  
 grows on. Ontario 1871. ss.

L. 15 July on Gasbury. G. Curran. with dark P. formed in a slight web, with, interwoven with leaf to the summit of 75 Lilac

Am. nat. 1866 for

*Prionocyla bilinearia* Pack. in Upright

Larva found by Mr Saunders

feeding on Oak.

P. formed 4th July

In 17th July

Kali Can.

*Prionocyla bilinearia* 1

Larva feeds on fol. O

*Prionocyla bilinearia* 1  
 Col. of larva brownish green with a  
 brownish line on the side of the  
 thorax. Larva found on the  
 leaves of the Gasbury. G. Curran.  
 Larva found on the leaves of the  
 Gasbury. G. Curran. Larva found  
 on the leaves of the Gasbury. G.  
 Curran. Larva found on the leaves  
 of the Gasbury. G. Curran. Larva  
 found on the leaves of the Gasbury.  
 G. Curran. Larva found on the  
 leaves of the Gasbury. G. Curran.  
 Larva found on the leaves of the  
 Gasbury. G. Curran. Larva found  
 on the leaves of the Gasbury. G.  
 Curran. Larva found on the leaves  
 of the Gasbury. G. Curran. Larva  
 found on the leaves of the Gasbury.  
 G. Curran. Larva found on the  
 leaves of the Gasbury. G. Curran.

spinos.  
lase agiti male  
? deriv

# Fam Ennomidae Guen Mor

*Apicia* (Guen) *stictalaria* or *junctularia* Guen Mor 55

pupae small  
often a sign or mark

*Microsema* (H. Sch) *catuligaria* (H. Sch) Mor 55

? deriv

*Hemiphrasia* (H. Sch) *longipennis* (H. Sch) Mor 55.

? pupa a saw

*Procycla* (Guen) *annularia* (H. Sch) Mor 55. Hatch M4 5 Ag. Oct. 1869. 528.

*Sticta* meaning narrow.  
P. set feeds on the leaves by night & during the day hangs on the twig with its head downwards.  
is fed to 8 weeks & pupa forms in an open meshed cocoon. Ins. pl. 62. 448/17. Md  
under fallen leaves, under bark of on the ground. Ins. pl. 11. Md  
the species, the following. seen in June & deposits eggs gland to the under side of a leaf to the  
Hab. Md (H) M4. (Mor) Can rare (Saunders) number of 75. on Silene

*Dactylus acule*  
*annatus* *harmatus*  
or *armatus*

affinis *Procycla* ?  
Hab. Md (H)

~~Ins. pl. 11. Md~~  
~~fig. 11. Md~~

with name  
seminaria?

*Epione* (Lup) *seminaria* (H. Sch) Mor 55.

? *Plagiodis* " (Gr correction)

? *Syca* *sulfataria* Guen Mor 55.

Ins. pl. 47  
fig. 8. Md

Hab. Md (H) M4 Mor

Ant *Epione* (Lup) *defontanata*. Grote P.B.P. 3. p. 90. pl. 2 fig 7

aff. Ins. pl. 55  
fig. 3. Md

Hab. Md. (Gr) Md (H)

Ins. pl. 50  
fig. 12. Gr. fig

? deriv

*Syca* (Guen) *seminaria* ~~or~~ *Epione* ~~above~~.  
*macularia* ^ *horr*

Ins. pl. 47  
8. Md

*Augerona croceatoria* Grav. Saunders Ref. fruit  
 taken in <sup>grows at</sup> Ontario 1871 37.  
 female, June deposited 320 eggs in <sup>fruit</sup> cluster  
 in the box in which it was confined  
 Description of Larva which feeds on  
 Strawberry Currant.

*Homalocampa filamentaria*

Sp. exhibited Ent Soc. Can. (Can Ent 2.35) by Mr  
 Saunders Can. from Pear Willow &c. (Can Ent 2p 35)  
 (200222)

*Selenia* *Montaria* G&R

31/8. G&R/1/8





82

*Enonopia pectinaria* (H.P.) Linn  
 Luluer 23 Ann Rep My 5 cab not in lot



*Entropia homunaria* G&K. Tr. A.E.S. 2 p. 80  
 error *Entropia hypocharia* † Walk. GVR Tr. A.E.S. 2. 80

closely allied to *E. hypocharia* but the wings are narrower. The angles of the exterior margins appear more determinate. the color is intense ferruginous above with purplish reflexions & not clear brown with an olivaceous tinge G&K. GVR Tr. A.E.S. 2 p. 80

calculus  
 made of flesh

*Entropia laticinctaria* Guen. Mor. S.C.  
*E. laticinctaria* ♂ & ♀ *Calenodes* ♂ ? *agrasaria* Walk. are identical & belong to *Nameria* GVR Tr. A.E.S. 2. 81

Hab. Md. (H.) see *Dryopheryx* 85  
 Ins. pl. 55  
 fig. 8. Md.

?

*Entropia madusaria* of British museum coll. G&K Tr. A.E.S. 2 p. 81  
*Entropia opencaria* Walk. GVR Tr. A.E.S. 2. 81.  
 See also *E. vinosaria* below.

Ins. pl. 62  
 fig. 20. Md.

Hab. Md.

?

*Entropia propinqua* of Brit. Mus. coll.

aff. Ins. pl. 62  
 fig. 21. Md.

Hab. Md.

*Serratus notched like*  
*row*

*Entropia serrata* Linney  
*Ennomus consociaria* Walk. GVR Tr. A.E.S. 2. p. 88.

Ins. pl. 53  
 fig. 2. Md.

Hab. Md. (H.)

*Entropia uclaria* Walk.  
*metanema* " Walk. GVR Tr. A.E.S. 2. 81

*testacea*, a weaver.  
 shape.

*Entropia testonaria* GVR. Ann. Lye Nat. Hist. NY. vol. 8 p. 18. & reprint. pl. 15 fig. 6.

Var. Ins. pl. 72  
 fig. 4. GVR.

Ins. pl. 56  
 fig. 6. fm GVR fig.

*lentic* made of  
 fine or minute

*Entropia simulantaria* ♂ GVR Ann. Lye Nat. Hist. NY. vol. 8 p. 15 & reprint. pl. 15 fig. 5.  
 1867. up.

Ins. pl. 77  
 fig. 5. fm GVR fig.

*minimus* barely the  
 size of *similis*

*Entropia vinosaria* ♂ GVR Ann. Lye Nat. Hist. 1867. up. vol. 8 p. 17. fig. 15. fig. 4. }  
*E. madusaria* Walk. GVR. See above & pl. 62 fig. 20. also. }  
*E. opencaria* Walk. GVR Tr. A.E.S. 2. 81 )

Ins. pl. 77  
 fig. 35. fm GVR fig.

Can. Saunders  
 effects, complete

*Entropia efficta* Walk. *E. refractaria* Guen. } *Emusaria* Walk. *E. lignaria* Guen. }  
 Mor. } Mor. }  
*E. proclunaria* Guen. }

*Abraas. rubescens* Fitch To Cat. 1.22

Lar Long cylindrical yellow measure or span worm  
varied on sides with white. Smooth numerous  
black spots regularly arranged from each  
spot or dot proceeds a hair

Ellis

Remedy hand picking or jarring the bush so that  
then gathering the worms which have let themselves  
down by threads with a forked stick & destroy them  
or when the worms have completed their growth  
& gone underground to change level the ground under  
the bushes (carefully) that cover with boards &  
or bricks so as to prevent the moths from coming  
out - as they will perish by multitudes under  
the boards as perfect moths. (Bely)  
also a solution of 8 or 12 ounces to a bucket full of  
water. Bely Am Ent. & Path. 1<sup>st</sup> Rep. Mass. p. 12

*Abraas. rubescens*

L. 100 16 jointed bright yellow varied on each side with white having numerous black spots & large  
round dots regularly arranged each giving out a fine black bristle  
m. pale rufous yellow wings with one or more faint dusky spots behind the middle in male  
4 in female with an irregular band crossing both pairs 1.30 to 1.40

Canada Saunders  
Metacampa (Fab)

Metacampa (Fab)

perlata Guen - Mor 56.

Larvae 12 legs. Pack guide 313.

In pure white with 2 dark  
oblique lines not angulated  
not uncommon westward Pack guide 320.

all white  
to fish  
ribes. currant

Eupetichia  
Ellopiea (Vendisch)

ribesaria

Pract Ent 1. 22, 8 vol 2, p. 67.

Pract Ent 2 p 20. fig 1. Curr. Guide 321 Am Ent. 2. 13.

Altraria ribesaria

Fitch Jr NY Ag Soc. vol 7.

Guen on Mor 61

Pract. 1<sup>st</sup> Rep. Man. 13.

American currant moth

Fitch

Gooseberry

Span diam Am Ent. 2 p. 13. fig 1. 2.

Curran spin worm

may

feeds on the foliage of Currant &

Gooseberry.

For Fitch says that the wild gooseberry

L. 108. Poly. fig

Gooseberry.

For Fitch says that the wild gooseberry

Ribes cynobate is probably its original food.

In pl 53

fig 5. coll of Dr Morris

Mr Saunders states that these caterpillars in some

places in Canada prove very troublesome the eggs

are laid on the leaves & the pupa is

formed underground. \* Hellesore is recommended

to destroy them either as a bait or mixed with water

The larvae state last about 3 weeks

Pupae found under the bushes rather upon the ground or

Good plant.

Gooseberry Currant

1863

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Gooseberry Currant

wholes. standing in water  
first name.

Ellopiea tubularia

♂ GFR.

Ann Lye. Nat Hist NY. Apr 1867.

vol 8 p. 24 pl 15 fig 8.

In pl 77

fig 42. fm GFR. fig

Ellopiea

seminudata

Walk. GFR & AES 2. 82

Ellopiea Larva

smooth with 12 legs. Pack guide 313, 320.

Head 94

Ellopiea

infraparia

♀ GFR Ann Lye Nat Hist NY. Apr 1867.

vol 8 p. 26 pl 15 fig 10

In pl 77

fig 41. fm GFR. fig

Ellopiea

pellucida

♀ GFR Ann Lye Nat Hist NY. Apr 1867.

vol 8 p. 25 pl 15 fig 9.

In pl 77

fig 40. fm GFR. fig

Ellopiea

floridaria

Guen

Episcellaria Guen & Mor

E. ansaria Walk.

Ellopiea

paucisaria

*Cateractes marginaria* W.S. Muenst. Proc. Bust. Soc. Nat. Hist. X. 189.

Hab. Phila.

*Cateractes umbrana* Guen. Lintus. 28 ann. Rep.  
W.S. Cab. Nat. Hist. 62.

*Eurymene phlogosaria* Guen. 96 May.  
1883/18 Lintus 23 ann. Rep. W.S. Cab. Nat. Hist. 64.

*Eurymene rosaria* G.H.R. I 74/1 / 96/13 Can

*Metanesma cavaria* Pack 4XXIII/35



had may be  
rest need

*Caberodes resimaria* Walk.  
*Tetracis pandaris* is ♀ Walk GVK Tr A.S. 2, 81

numbers on  
the microcamia

*Caberodes* (Guén) *microcamia* (Guén) Mor. 56  
*C. imbricaria* ♂. *C. superaria* ♀ *C. confusaria* & *C. floridaria* ♂ Walk. seem to belong  
to *C. microcamia* GVK Tr A.S. 2, 81  
(*C. remissaria*, ♂ is darker & maculate was seen rarely before GVK Tr A.S. 2, 81 see above) Ins pl 53  
7 Md.  
Hab Ma (54) no London Can. common (Saunders)  
common northward. Pack guide 320.

?

*Caberodes*

Hab Ma

Ins pl 62  
fig 22 Md.

? *clerici*  
crocus - saffron

*Tetracis* (Guén) *crocallata* Guén Mor 56. Belthum Tr Nov Scot Inst. 2. 87  
? *Chorodes gonata* Guén. of Gr. coll. (see p. 127.) Mor 56

Ins pl 53  
fig 12 Md.

Hab Ma (54) Can. rare (Saunders) Nova Scotia (Belthum)

? *Lora* a thin wire

*Tetracis lorata* Grote PSP 3 p 91.  
? *adaptata* Guén & *submutum* Belthum Tr Nov Scot Inst. 2. 87.

Eggs. from 15 to 20 eggs are laid at one time during the night only. 2 females  
June 13 to 20. Laid over 300 eggs. (Can) eggs change color from yellowish green  
to Indian red, then to gray & finally to a white daisy-like (Can 5 Nov. 2. 88)  
Hab East India Is. (Gr) Md (54) London (any not com) Saunders 2  
Ins pl 44  
fig 1 Md May.

myth name

*Eurymeris* Dup. *Kuhlsengi* Gr XIX/12  
*Eurymeris* (H. sp.) *conspicua* Guén Mor 56.  
*Eurymeris* 13 do. *Drutich* *Geroldaria* H.S.  
*Eurymeris ferundaria* H. Sch. Mor 56.

*Eurymeris* in England is known as the scorched wing. Newman 53  
? var. Ins pl 49  
fig 12 Md. May

Hab Md (54)

*Eurymeris calypso* *Euphras* Walk GVK Tr A.S. 2, 80 also *Ephra* *agyllaria* Walk. do to do

*Eurymeris alcolaria* Guén Mor 56

53/18.

Ins pl 41  
fig 6. coll of M. Grote.

Hab Can (Mor)

*Eurymeris subfervens* *Elophus* Walk GVK Tr A.S. 2, 82

? *psa* with  
ryna a thread

*Metanema* (Guén) *inatomaria* Guén

Ins pl 47  
fig 9. Md.

Hab Md (54) Can (Saunders)

as broad,  
myo rect. a soon

*Metanema* *califerragata*,  
*Macara* " Walk. GVK Tr A.S. 2, 82

(24X)



*Ennomos subsignaria* To Ent. 1. 57

Eggs deposited in a cluster of 50 or more  
Lar. feeds upon young buds as soon as they begin to  
expand & afterwards on foliage. Pupae suspended in a  
P. forms tube in an open net work cocoon  
among half eaten leaves & remains as pupa  
about a week.

Its appearance about July.

Remedy. jar up the trees so as to dislodge the worms  
which can then be destroyed in the ground  
while those suspended by silken threads can  
be easily brought down by means of a stick  
or pole.

*Parennomos pincata* Pack. Agr. Man. Hunt. 1867. 70. p. 247.

Lar. found by Mr Saunders Can. on Pine  
in Autumn. Its appeared 20<sup>th</sup> May following

West Can.

Food plant Pine

*Parennomos pincata* Pack. Man. Agr. Rep. 1870  
Apr. vol. 10.  
Lar. feeds on pine in Canada (Saunders)

27000005  
legitmate  
magnus great

*Ennomos* (Zetsch) *magnaria* (Guen). Mor 56. Pack. <sup>guine</sup> 321 Hair cor. 320.

*Eugenia* Hüb. Mor 56.

*Ennomos kataria* Wall G & R Tr A & S 2. 88

Lar fed on Oak Malch. Tr Ent 1. 77

Spin a large loose cocoon of open net } Ins pl 62  
work and Aug. Ins. appeared Sep. } fig 24 Md.

Hab Ma (G), Mass. (Pantorn) Can rare (Saunders)

*Ennomos* in England known as Thron moth. Neumann 56.

Oak.

? *Ennomos subsignaria* Hüb Mor 56 Tuckard Guide 321 Tr Ent. 1. 57. 77

*Eudalmia* " Hüb. Am. Naturalist 2. 333.

? *Erasmus subsignaria* Fitch 1855. Tr NY Ag Soc. p 342.

Yellow York measuring worm Fitch

Ins pl 15  
fig 6. Maple M.

Larvae very destructive to the foliage of shade trees in cities & especially } Ins pl 68  
annoying to pedestrians by dropping <sup>on faces</sup> from the trees suspended by } fig 13 end  
a silken thread which enables them to remain when the danger is past  
Pupae formed in a very slight web or cocoon amongst the leaves & branches

Food plants Elm Linden Poplar Maple  
Apple. (C. Mc Marble Delphos Ohio. Coll. 1845)  
17th June '94  
Specimen

Hab N.Y. (Fitch) Illu (Malch) London Can not common (Saunders)

?  
errata. serrata

*Ennomos serrata* Dury of Dr Mor Coll. Mor Cal O.

Ins pl 53  
fig 2 Md.

Hab Ma (G)  
f

27. well yuria angle

*E. Tebracis*

*Diaperis* (Hüb) *coloradaria*

Gr & R. Ann Lye Nat Hist NY Ag 1867. vol 3 p. 12 pl 16

*Ennomos* (Zetsch)

*Colorado Eugonia*

Ins pl 77  
fig 23. fr G & R fig

oxyprop. the moon

*Selma* <sup>Hüb</sup> *Kentaria* G & R Tr A & S 1. n 359.

*Percallia* " G & R Tr A & S 1. p 12 pl 1. fig 5.

Hab Putnam Co. NY. (G & R)

Ins pl 81  
fig 8. fr G & R fig

European *Percallia syngaria* or like beauty distinguished from all other calcularia

in the family by the recurved horns upon the eighth segment of the body see Wed. 2. 397. fig 109/12.

*Amphibarys cognataria* Less. *Leulius 23 An Rep.*  
*Yan plum Aug. My S Club was his by*

Amphidasysdae Guén

deep around  
faint thick  
? deriv

*Ceratomyx* (Guén) *satanaria* Guén Mor 67  
Hab Gu.

querna. of oak

*Amphidasys quernaria* SGA. Mor 57. SGA pt 103.

American Oak beauty

Lar. <sup>14</sup>/<sub>15</sub> SGA

Larva spun upon the surface of the ground 22 May 8 Ins pt 53  
Ins appeared 13 Feb. (Geo) Pg 3 Md

Food plant Oak (SGA)

Hab Geo. (SGA) Ma (SG)

L. dark brown, spiracle line lighter. humped 173 segment  
looks like a stick.  
35 dark brown with 2 shades white lines obliquely across  
light & beautifully spotted & marked with dark brown

*Cognatus allied*

*Amphidasys cognataria* Guén Mor 57. Pack Guide 323 { Beltum Trans. Nov Scot Inst.

*Amphidasys* "Larva stout twig like using dark brown granules" 2/87  
it is swollen at each end & the head is often lifted back Ins pt 44  
Mr Saunders in his notes states he thinks it feeds on Pine Pg 20. coll. of  
It is not common in Canada. PLUM Linton 1889. in Grot

Mr Packard in his guide to the study of insects 19 Food plant prob pine?

Hab Canada (Saunders) } larvae feeding on the Missouri }  
Miss. Pack } currant the goosberry & the }  
near Spruce, Spruce subarctic }  
22 Feb. }  
Missouri currant }  
Goosberry red Spruce Pack

pruna punctum  
or pale

*Amphidasys prunataria* ♂ Gr PESP. 2 p 31. pl 2. fig 3.

Ins pt 73  
fig 17 from GKR fig

Hab Mid St. (Gr)

*Cupido love, acm*

*Amphidasys cupidaria* ♂ Gr PESP. 3 p 534 pl 6 fig 8.

Ins pt 80  
fig 9 from GKR fig

Hab Mid St. (Grot)

Biston mythe name

*Canara saundersi*  
uses a bear

*Biston* (Leach & Sch) *ursaria* Walk. Saunders list.

Boarmidae Mor 57.

<i>Hemeraphysa</i> Steph	<i>Paraphysa</i> Guén
<i>Boarmia</i> Dup	<i>Branchesia</i> Guén
<i>Synopsia</i> Hüb	<i>Stenotracheis</i> Guén
<i>Boarmia</i> Trèls	<i>Exilis</i> Guén.
<i>Nephrosia</i> Bdv.	† <i>Cleria</i>
<i>Ectropis</i> Hüb	

† Saunders list Boarmidae Mor O.

*Boarmia*      *Boarmia* 2/7  
 Linn ferd. de. *Boarmia*  
 for. *Boarmia* de. *Boarmia*

J *Nephrosia fumataria* Ws. Minot. Proc. Boston Soc Nat Hist XII. 83

Hab. Man.

*Nephrosia fumataria* Ws. 1867  
 Linn ferd. de. *Boarmia*  
 for. *Boarmia* de. *Boarmia*

*Nephrosia fumataria* Ws. Linn ferd. de. *Boarmia*  
 for. *Boarmia* de. *Boarmia*  
 64



Boarmidae

guspa day  
phy friend  
remiles unity

*Hemerophila* Steph. *unitaria* (H. Sch.) Mor 57, see if syn. *Eutrapela clemataria* p 127  
*Boarmia* see. *Eutrapela clemataria* p 127

Hab Can. Saunders.

96/25 Can 8 26

ovr together  
ov 15. an object seen

*Synopsea* (Hüb) *phyalcaria* (Guén) Mor 57.

*Boarmia* *monaria* Guén  
" *intraria* Walk. GVK 7. 2. 82  
" *ellaudata* " " " " " "

Myth name

*Boarmia* (Treits) *frugaliaria* (Guén) Mor 57

Lar p 9  
fig 1. 2. 3. 13. 14 & 17 clover  
Md.

Larva varies very much in color & found abundantly  
by sweeping Clover fields with a beating net in  
Md. Ins p 61  
fig 1. 2. 3 Md.

Hab Md. (H.) Geo. (Mor)

Food plant Clover

*Boarmia* *larvaria* Guén.

7

*Boarmia* *intraria* Guén Mor 57.

Ins p 62  
fig 17 Md.

Hab Md (H)

*Boarmia* *sublimaria* Guén GVK 7. 2. 81

74/2

*Boarmia* ?

Pack. guiso 322; F.C. Ag rep. 1855 p 92

Larva found feeding on foliage flower  
of Cotton (Geo)

Food plant  
Cotton

Lar Ins p 19.  
fig 15 cotton Geo.

Hab Georgia. H.

?

*Boarmia*

Ins p 45  
fig 2 Md.

resembles *Bentaria* above but posterior wings serrate &

Canada Saunders

*Boarmia* *sublimaria* Guén } *B. larvaria* Guén } *B. canadaria* Guén } *B. cunearia* Walk.  
Mor } Mor } Mor }

repps ashes.

*Siphrosia* (Bd) *cribrataria* (Guén) Mor 57.  
*Ectropis* Hüb

Hab Geo. Mor  
*Siphrosia* *antularia* Walk } GVK 7. 2. 82  
*subantarica* " }

? deriv

*Paraphia* Guén *deplanaria* *subantarica* & *nubecularia* Guén Mor 57.

*Paraphia* *punctata* Pack. in Agric. Man. Hüb 1869 70. p. 246. *Phyllo*  
Pack. Man. of Rep. 1870

This moth not very common was raised by Mr Saunders of London  
Canada from a brown geometric larva on the pine the imago appears  
24th June.

Food plant Pine



L. very thick & apertis like for a longer. back light brown  
 shades darker to spiracle & on under part light brown  
 S.D. brown with 3 zigzag lines of light bordered with black  
 running across upper wing. under wing with only 2 -  
 & light on all with 3 zigzag lines of darker line on the 3  
 & beautifully marked. very large.

? dorus

hortus - a garden

*Perimecis* <sup>gr. cit</sup>  
*Bronchelia* (Guen) hortaria (Guen) Mor 57.  
 " *Chlorodendron* SVA pl 102.

*Leptrosia amplaria* Walk. GPK 2. Trals 2, 83  
*Bronchelia dissimilata* Walk. " " " " "

Lar pe 10  
 1/2 16. fm SVA

Carpenter or Tulip tree beauty SVA.

Ins pe 55  
 1/2 12. Md.

Lar went into the ground May 16 & July 11 (Guen)

Ins appeared 5th June & 1st Aug (Guen)

Has Md (G) Geo (SVA)

Food plants Tulip tree Sassafras (SVA)

Spiracles narrow  
 (part) has throat or neck.

*Stenotrachelys* (Guen) *approximaria* Hüb Guen Mor 58

? dorus

*Exilis* (Guen) *pyralaria* Guen Mor 58.

*Cleoria* ?

*Cleora* Curtis

Also report summer  
 copes  
 ago 5

Ins pe 65  
 1/2 24 Man coll of  
 M. Sanborn.

Hab Man (Sanborn)

(*Cleoria* Saunders list amongst *Boarmidra*.)

*Canala* Saunders

*Cleoria limitaria* Walk. *C. diversaria* Walk. *C. distinctaria* Walk.

*Cleora dentata* Pack. (Sanb. aut)

" *pulchraria* (Minot)

Ins fm coll of Mr Saunders Can.

Ins pe 83 & Ins pe 65  
 1/2 23. var. 1/2 24

*Cleora pulchraria* Ws. Minot Proc Ent Soc Nat Hist N.Y. 169

Hab Man

J. C. X V. 1/4. Lenthies coll

*Cleora pulchraria* Minot Sep.

Lintner 23d Ann Rep N.Y. Ent Soc Nat Hist 59

occurs abundantly on bounds of Pine

in Sep

(*Cleora pulchraria* Saunders)

*Geometra*  
*gicralis*

0.30.

♂ dull dark under brown, sometimes pale yellowish, legs  
black along mid back, the base and segments nearly black.  
the under of the others - their sides being prolonged obliquely  
forwardly beyond the hind wings. The hind wings are proportionally  
longer than the fore wings, notably in *Comanthe* ending  
in 2 little sharp teeth, next segment back of these also  
slightly prolonged subacute. Fore wing segment next to last  
2 small horns projecting squarish.  
Formes in sex. in color as in 2 or 3 leaves fastened  
together with silk.

Geometridae Mor 58

*Geometra*, Linn

{ *Nemoria*. Hüb.  
*Geometra*. of others

*Sedix* Hüb.

*Lysiphrus*. Hüb.

*Rachocampa*. Guen

*Synchlora*. Guen

*Operalia*. Steph

*Aptodes*. Guen

\* *Leucine* Saunders list

\* *Leucine* Mor. 60.

{ *abraxia*. *rebecca* su *elopia* p. 129. Mor

Ephyridae Mor 59

*Ephyra* Luf.



*Geometra* & its allies *Nemoria* &c. have smooth heads, or angular entire  
mounds which are green often with whitish lines. Larva is rather short & downy  
with several dorsal humps, the pupa is enclosed in a transparent cocoon among moss  
*Geometridae* Mor. p 58 Pack guide 823

ys earth  
puparia to measure.  
iris rainbow

*Geometra* (Linn) *iridaria* Guén Mor 58. Pack Guide 823.

Hab Md (FG)

Ins. pl. 51.  
fig 38 Ma.

*Geometra* *siccifolia* Titch Tr M & Ag Soc Bbwood 16. p. 381. Mor 58.

Stems dry,  
folium leaf.

Dry leaf measuring worm Titch.

Larva presents a marked resemblance to a box without leaf or the brown  
straggly fragment of a dead twig. It moves at the twig with its 4 hind feet. Titch.  
Larva Aug. & Sep. feed on foliage of Choke cherry which resembles *Epilob* is  
disturbed they feign death. } pl 18. Poison oak &  
cotton formed, all leaves brown to yellow with a } fig 12. Sumach Md Sep.  
silken thread Sep. }  
Good plant Choke cherry Titch

Hab Md. (Titch)

Stems agree.  
Xhops green,  
humps white.

*Nemoria* (Hüb) *chloroleucaria* (Guén) Mor 58  
*Geometra* of others

Hab Md (FG)

Ins. pl. 56  
fig 13. Ma.

*Nemoria* *densaria* Saunders coll. Mor 0.

Hab Can. (Saunders) rare

Ins. pl 83  
fig 2. coll of M Saunders  
Can.

isid's  
violet

*Isidis* (Hüb) *euchloraria* (Guén) Mor 58

? Ins. bad  
w/for using

*Lysiteris* (Hüb) *abortiva* H Sch. Mor 58.

Hab (Ma) (FG) Chi (Mor)

Ins. pl 51  
fig 40 Ma.

? denis

*Pracheospila* (Guén) ?

Hab Mass. (Sanborn)

Ins. pl 65  
fig 5 Coll of Mr  
Sanborn Mass.

*P. laxaria* Guén. the only one in Morris

? denis

*Synchlora* Guén *liquoraria* Guén Mor 58.

Hab Calif. Mor



Geometra  
Aptodes.

Ins. sent in collection of Dr. E. Smark  
taken in South Calif.

In pl 102  
fig 7

*Aptodes rubicunda* n. s. Riley 1<sup>st</sup> Rep. Mo. p. 139. pl 2 fig 25. Am Ent. 2. p. 203. *Sells*  
*Raspberry Geometra* Riley *treat*

rears raspberry  
worm to cleavage

Larva has the peculiar faculty of thoroughly disguising itself with  
pieces of dried berry, seed, pollen & other debris of the fruit which it sticks Ins pl 97  
to a series of patches with which it is furnished also to this disguise fig 17, call  
the habit which it has of looping itself into a small ball & it almost of Mr Riley  
defies detection most numerous June July.

feeds on fruit Raspberry Blackberry

note. see also. *Aptodes flavilunata* (affinis)

Went

*Herene pinaria* n. s. (Pack) Ag. Mus. Flin. 1869. 70. p. 267

Lar. a geometra is striped with red. Feeds on pine  
Mr. Saunders in Pack rept.

Reb. Co.

feeds pine.

*Herene pinaria* Pack Mus. Ag. Rep. 1870  
Am Nat. 16. 686.

♂. Dors green, measures worn. Tomoth bluish white.  
 Chin and on ang-red. Linn exposed upon leaf in sun  
 clusters grow to become a pupa.  
 ♀. Wings usually as their as back note takes. Somewhat  
 design. the fore hair with faint indistinct transverse marks of  
 130. of a darker color. &c. hind wings fringed with whitish

*Oporabea* Palpi minute, not visible from above  
maxilla short antennae serrated 4-jointed & joints  
ample thin anteriorly rounded posterior subovate n. 103

опра autumn  
Blow to live?

*Phorobia* (*Shiiferia*) *dilatata* (Shief) Mor 58 Fitch Tr U.S. 224. 1858. <sup>1860</sup> p. 842.  
*Larentia* : " " " " " 4 Mor 62.

*dilatatus*  
dilated or watery.

Hab N.Y. (Fitch)

*Uplodes* (Guen.) *memosaria* Guen. Mor p 58

Ins pe 51  
Fig 39. Ma.

Lab Geo (Mor) Ma 29.

*Aplodes* ~~formosa~~ *rubrolinearia* Pack 83/12

? doors are fold or sample.

*affinis* 米  
mimosa plant

*Aplodes Guen flavicincta*      Am Ent 2 (see also *Aplodes rubicincta* Riley)  
Yellow lined Geometer      p. 204

Larva found feeding on the flower of the double feverfew *L. Rose*  
 The back & sides of this caterpillar are entirely covered with small  
 pieces of the petals of the flower so as to represent a part of it.  
 When these pieces were taken off the caterpillar appeared as in the  
 lower figures of the plate it immediately however began to gnaw the  
 petals from the flower & placed the fragments on the spiracles on  
 its back & sides by means of a gummy substance issuing from its mouth  
 & in a very short time had clothed itself again when covered with  
 the pieces of the blossom it can scarcely be distinguished from a somewhat  
 faded flower - A similar caterpillar with the same habit was taken  
 by Dr. Tilden (*Lt*) on the blue Mexican ageratum flower.

LPJ pl 91  
fig 23 DC

Pupa formed in a cocoon made in a similar manner of petals on the stalk & presents the appearance of a withered bud.

his distinctive from melanop. by its somewhat Flora Plant Double Feverfew  
 base for side by the transverse ones being broader  
 yellow or pale green tinted of white. Mexican Agaveatum.  
 B<sub>2</sub> 106 (B) nearly equal parts Coronilla Spargan Nov Oct 2 204

*Aplodes glauca* Guén  
*Nemoria denticulata* ♀ *N. deusaria* Walk 6812 Tr AES 2. 82

? deriv

catena u chain

*Cateroia*. Gr cor  
*Dassalus* *Catenarius*. Gr correction } (*Zenene*)  
*Zenene* *catenaria* Har. Saunders list } *Polthum* Dr. Har. Scol. Inst. 2/87 } *Larks* 100  
*Geometra* *catenaria* Har. 459. Har cor 327 } *Pack*. Guide 323. } *py* 13 *ju* *Pack*.  
*Chain* dotted *Geometer* Har } *ju* *pl* 101 } *Ins* *pe* 53  
} *py* 18 *ju* *Har*. } *py* 19. *ma*

\* Wood wax in Harris  
Correspondence 321. is  
*Genista tinctoria*

Lar. 4th & 5th colored the segments being thicker & somewhat reddish with 2 sub-basal  
darkish lines head yellow with 6 black dots. Pupae black on a white felt with a black dot on  
Cocoon is formed of regular meshes like net work through which the pupa may be seen  
Pupa state lasts 30 days  
Bred. mid Sep. Maine  
Food plants *W. bar.* *W. axen.*

Hub. Ma. (24) Man. (Har.

(note: Terene placed under Boormidas Saunders list)

*Epyra dae* Mor. 59.

prop name  
Myrtus a myrtle

*Ephyra* (Lup.) *myrtaria* (Gün) Mor 59.  
*Zonosoma* H Sch.

Ins pt. 44  
fig 5 coll of Mr Grote N.Y.

? var Ins per  $\frac{62}{\text{fig } 3. \text{ Md.}}$

Hab. Md (24) NY (Grote)

*Ephyra* in England known as Mocha moth Newman 78

132.

*Acidalia*Frost 1891 Nov 16. 27  $\frac{2}{8}$ Larva found on *Trichostema*  
from unpollinated legs. in fruit & 24*Acidalia**ex-lineata* Pack.?

J. LVIII/20 Mo

*Acidaliidae* Mor. 59.

*Acidalia* Treits.  
*Simandra* Lep.  
*Chromos.* Treits.  
*Acidalia* H. Sch.

\* *Haematopis* in *Plumbeus* list but  
 see in *Hysonidae* of Morris. - P. 60  
 over note P. 134.

*Caberae* Mor

{ *Stegania* Guen  
*Cabera* Treits  
*Cabera* Treits  
{i *Corycia* Luf.  
*Baptia* Steph & H. Sch.

*Cabera tentata*Lep  
Lentini 93 Ann Lep 1845 Cab  
not his 64.*Corycia* *somolavata* Walk.J 65/11 Mo  
85/6 Can

## Fam. Acidalidae Mor. 59.

21) Pink edge  
 Radius myth name  
 Enucleatus made manifest

*Acidalia* (Treitsch) *enucleata* Guen; Mor 0. Pack. Guide 322  
 " *reductata* Pack. 544, 76 65 5. 2. 82  
 " *reconditura* " 546 2/58 *Acidalia* *Lana* moth slender  
 " *reconditura* " 546 2/58 *Fluces* concealed under low plant  
 " *contumacia* " 546 2/58 *Pupa* subterranean or lived in a  
 " " 546 2/58 *locus* among leaves. Pack. Guide 323

In pl. 57  
 fig 23 Ma.

Hab. Ma. (TG) Can. (Saunders) not uncommon.  
 Also known in England as Wave moth. Newman 76

personae very late

*Acidalia persimilata* Gr PESP. 1. p. 247. pl. 3 fig 5.

In pl. 67  
 fig 27. fm Giffy. poor sp.

In pl. 94  
 fig 5. Coll of Mr. Sanson Man

Hab N.Y. (Gr). Man. (Sauborn)

*Acidalia favillifera* Walk.  
 " *repellens* " 546 76 65 2. 88

Canada Saunders  
 indistinct plastic or brownish

*Acidalia inunctata* Guen } *A. similata* Walk *A. anticaria* Walk *A. junclaria* Walk  
 Mor }

typ. honor  
 at a p. m.

*Simantra* (Lep.) *viridipennaria* Guen Mor 59.  
*Ennomas* Tr.  
*Acidalia* H. Sch.

wides green pumia feather

*Hamatopsis* of Saunders list See *Fidionides* p. 133.  
~~*Prothymica*~~ ~~*prothymica*~~ Gr X4/4

## Fam. Caperidae. Mor 59.

steyares  
 dose or covers.

*Stegania* (Guen) *pushtularia* Guen Mor 59.  
*Cabera* (Treitsch) Mor

pushtula a purple  
 or pushtula.

" Larva feeds on foliage of Maple Saunders notes.

In pl. 65  
 fig 16 coll of M. Sauborn  
 Man

Hab. Man. (Sauborn) Can. common (Saunders) Good plant Maple (Sachinus)

In pl. 76  
 fig 14 coll of M. Saunders  
 Can.

myth name

*Cabera* (Treitsch) *erythemaria* Guen Mor 59.

In pl. 84  
 5 In fm  
 M. Saunders  
 Canada }

Hab. Ma. (TG) Can. (Saunders)

repures  
 a small bug again.

*Corycia* (Lep.) *vestitata* Guen Mor 60. Am. Ent. 1. 223.  
*Diptis* Steph & H.S. Mor

? *Chersotis plecta* Grote PESP. 1. 218. (no)

In pl. 63  
 fig 14 Ma.

Hab. Ma. (TG) Hlin (Walsh) Can. (Saunders) Can. (Am. Ent. 1. 13)

In pl. 68  
 fig 9. coll of M. Walsh  
 Hlin

Canada Saunders  
 albus nitide

*Corycia albata* Guen } *C. herminaria* Guen }  
 Mor } Mor }

Hab. Caccora (Can. Ent. 1. 13)



Macaridae Mor 60.

Amalopis Guen

Macaria Gerts

Halia Dup

*Fidonia bicoloraria* ns. Minck. Proc. Acad. Nat. Hist. XII. 83.

Hab. Man.

CV/3

*Fidonia Faxonii* ns. Minck. Proc. Acad. Nat. Hist. XII. 83. 171.

New Eng. States

CV/1

*Amalopis tripunctata*1-40 L. gray sprinkled with blackish dots Short lines head back slightly thicker than body ♀ 1853. 825  
Dorsal gray, thickly sprinkled with black dots Small brown spots*Haliea mavoria*

Back Man by Rep 1870

introduced from Europe

Ann Nat. IV. 666

Feeds on Currant &amp; gooseberry

Fidoniidae Mor 60.{ *Leptanura* Guen{ *Fidonia* Gerts. H Sch*Psamatodes* Guen*Numeria* Dup{ *Selidosoma* Lel.{ *Fidonia* H Sch{ *Boermia* H Sch*Fidonia* Gerts*Haematois* Hüb*Gorytes* Guen*Aspates* Gerts.\* *Loxogramma*. *Fidoniidae* }  
Saunders list }*Eufidonia* *notataria* <sup>Malh</sup> ~~not~~ 9 65/9 Ind

" 9 H. black 9 83/24

*Fidonia* *pinetaria* Gerts 85/22 & 23



Macaridæ happenen

Macaridæ Mor. Co.*Amilapris* (Guén), *unipunctata* (Haw) Mor Co.Lar pte 12  
fig 6. Oak May Mo.

Larva taken on Oak May (Mo.)

Food plant Oak.

Ins pte 57  
fig 14 Mo.

Hab Ma (H)

*Amilapris* *laetipunctata* Stsch 5th Rep. 1885 p. 326 Mor Co.  
Triple White Gyr measure worm Stsch  
Hab. Ma. Stsch L. time eats foliage " Jacob so similar in the cut & design of its wings, to the *unipunctata* of Haworth that it may prove to be only a var of that species " (Guén)  
Food Plant Oak.

*Macaria* *granulata* Walk." *trilineata* & *irregularis* Walk GPK Tr 228 2. 82*Episorasia* *despinata* Walk

2 colored

*Macaria* (Curtis) *bicolorata* see *Hyperites* *unicaria* p. 128. pte 55 fig 8." *Macaria* rather short & smooth & feeds on trees & shrubs the pupa is protected by a cocoon " Pack guide 223*Canara* *Saunders*  
71105. Short*Macaria* *episorasia* Walk*M. subepiscaria* Walk.Arist  
an assembly

*Halictus* *Aph. muraria* Godwin. Mor Co. Pack in Agrical of Mass. Hist  
L. May, June. feed on foliage of Currant. 1869-70 p. 245  
Hal Europ. Mass. (Pack) Pupa formed in the earth. Pack

Lido faith

Lidoniidæ Mor Co.? isippa  
adus.

*Episorasia* *Guén* *nectaria* Guén or any. Mor Co.  
*Lidonia* 11 Sch 2 Tr 114.

? Hæpæos  
macle.*Pamatorides* (Guén) *exornata* or *nectaria* Guén Mor Co.Myth name  
refers to acroba*Numeria* (Dup) *abnormaria* Hüb Guén Mor 61.Ins pte 62  
fig 8. Mo

Hab Mo (H)

*Canara* *Saunders*, *Numeria* *duaria* Guén*N. nectaria* Walk.{ or is a huge on leaf  
super big*Selidasoma* *Lid* *fulvornata* or *feminiaria* Guén Mor 60.*Lidonia* 11 Sch.? *Boegmia* 11 Sch.*Lidonia* *Trist* *aruncularia* Guén Mor 61*Lidonia* (Fitch); *fulvornata* GPK *Halesaria* Zeller 21/5 Antea change*Lidonia* *Faxon* Minot May 27

Lentua 23 Ann Rep NY S Cab. nat his 59.

+ to *numeraria*. J.C.XV. 1. *laetipuncta* coll.*Lidonia* *bicoloraria* Minot June 1Lentua 23<sup>rd</sup> Ann Rep NY S Cab. nat his 59J.C.XV. 3. *numeraria* coll.

*Haemalopsis grataria*

Eggs deposited in rows of about 20. along the edge of a leaf or along the stem of the common buckwheat (*Stellaria media*)

Larvae loop themselves into all manner of shapes especially into a circle

Feed on the leaves &c has a habit of jerking itself away to a considerable distance when disturbed

Pupa formed within a slight web attached to their food plant.

Probably passes the winter in either the egg or larva state "Riley

Food Plant Buckwheat Riley

*Dothymia coccineifascia* Gr

Alma Blos  
 2815. *functus*  
 or *vergaue*  
*gratus aculeatus*

*Caematopis* (Hüb) *grataria* (Sal) Mor 61  
*Sanctaria* Hüb Mor  
*Chickweed Geometra* Riley  
 Ins quite common in Md.

Am Ent 1804. 2. 182

Riley 1<sup>st</sup> 184. Mo. p 174. pl 2. 18 21.  
 Lar fig 100. fm Riley  
 Ins pl 51  
 fig 17 Me.  
 Ins pl 97  
 fig 18. Missouri coll  
 of Mor Riley

Hab Md. (G) Missori (Riley) Can. common (Saunders)  
 Food plant Chickweed

aff *Caematopis* ? *Prothymia* ?

Hab NY (Grote)  
*Prothymia rosalba* Gr 106/8

Ins pl 44  
 fig 13. coll of M. Grote NY.

? *Phaivus* broad

*Heliothis californiana* (Hüb) Grote P. E. S. P. 2 p 244.  
*Gonytodes* (Guil), *trilemaria* Pack  
*Californian Platana*

Hab Calif (Mor), Pike's Peak (Gr)  
*Gonytodes trilemaria* Pack. 98/15

Ins pl 76  
 fig 7. coll of Ent Soc Phila.

*Loxogramma deflexa* Walk Mor 9. Saunders list Beltum Tr Nov Scot Ent. 2/87

Ins pl 83  
 fig 32.

Hab Can. common London (Saunders) Nova Scotia (Beltum)

*Loxogramma* placed by Saunders in *Tetronidae*

*Curculio* *Launus* *Loxogramma subaquadria* Walk.

Hab Can.

*Aspilotes* (Grote), *dissimularia* (Hüb) *coloraria* Sal. or *Sigmaria* Guen Mor 61.

*Aspilotes dissimularia* (Hüb) 1847.  
 Intitut. 13. Ann 27. 1848. 1st not his sp.  
 in *Lebanon*

*Euspilotes* ~~sp. nov.~~ *spinalaria* Pack  
*Aspilotes*

Fam Xerindae Mor 61  
comes here  
Abaxia. Leach.

Fam Larentiidae Mor 61.

{ Larentia Trita  
  Oporabia Steph  
  Eupithecia Curtis  
  Leptodes Guen  
  Ypsipetes Steph  
  Melantheria Huf  
{ Melanippe Luf  
{ Cidaria Trita H-Sch  
  Anticlea Guen  
{ Coremia Guen  
{ Cidaria Trita  
{ Phibalacteryx Steph  
{ Larentia Trita  
  Scotosia Steph  
  Spargania Guen  
  Cidaria Trita Sch.

*Lophora*                      *vernata* pack.

4 178.

85/7.



Larentiadae Mor 62

*Larentia* prop name  
gemmatus, doubtful

*Larentia* (Hertich), *geminata* G&K. P&S 106. p. 29. pl. 3/fig 60

*Opiorabia* Stephens.  
Hab NY (G&K) Can. (Can Ent 1. 89)

Ins pl 78  
fig 7. fm G&K/fig

*Larentia dilutata* Mor 62.  
*Opiorabia dilutata* Zich. 3th Rep. Mor 62. See Geometridae p. 131.  
Hab N Am Europe Mor

*Eupithecia* (Curtis), *miserulata* Grote P&S P. 2 p 32. pl. 2 fig 14. Pack. guide 325  
*Larva* Taken on Clover & Ragweed Good plants Clover or Ragweed.  
Sep. Md.

*Eupithecia* "Larva rather short stiff often marked with small  
tubercles. The head is small or rounded in feet on trees & low plants. Lar pl. 14  
Sometimes on seeds of plants the pupa is slender conical. (Pack) fig 19. 21. Clover or Ragweed  
Md Sep.

Hab Md (G&K) North Va (Grote)  
*Eupithecia* pug moths Newman 118

Ins pl 61  
fig 58. Ma. Ins pl 73  
fig 16. fm Grote fig

anguis. snake  
unmarked lines or streaks

*Eupithecia angulinea* G&K Ann Lye Nat Hist NY. vol 8 p. 28. pl. 16 fig 12. Apr 1887

*Eupithecia fuscescens* Walk. (*Eupithecia* G&K. 1155. 2. 82. *Eupithecia* G&K. 1155. 2. 82.) Ins pl 77  
fig 37 fm G/fig  
*Larentia (Eupithecia) fuscescens* Walk G&K 1155. 2. 82.  
*Larentia fuscescens* Walk G&K 1155. 2. 82.

*Eupithecia* (aff.)

*Eupithecia geminata* G&K.  
*Lobophora abbreviata* Walk. G&K. 1155. 2. 82.

Ins pl 46  
fig 15. My fm coll of  
Mr. Morrison

*Eupithecia curvilineata* G&K.  
*Lobophora fuscescens* Walk. nearly allied G&K 1155. 2. 82.

scotopax?  
monocerc

*Lepicium* (Guin) *scotopax* (Guin) Mor 62

*Ypsigetes* (Stph) *pluvialis* (Guin) Mor 62.

*Melantheria* (Lep) *rupestris* (Guin) Mor 62.

Hab Can (Morris) N. H. Md. (G&K) London Can (Saunders)

Ins pl 53  
fig 17. Ma.

Ins pl 92  
fig 2. N. Hamp coll  
of C. Lodge

*Melantheria rupestris* (affinis)

Ins pl 20  
fig 31. Canada

Hab Can (G&K)



*Plutalis coreallata* "catenilla" rats into the grain <sup>only one</sup> each kernel, Cutts 335 6 (most likely of the same)

*Trineis grandis*, wolf or little grain moth. Cutts 337.

" before filling <sup>any</sup> granary, cleanse <sup>the</sup> granary as soon as possible. Cutts 337  
it thoroughly in the winter if it is possible. Cutts 337  
the moths may be destroyed by in the spring by  
burning lamps or gaslight, at the same season  
turn over the corn to destroy the eggs & disturb the  
young caterpillars. Cutts 337.

" Burning sulphur & creating sulphuric acid  
will kill the moths in a close apartment. Cutts 337

" Scattering salt over the (grain) corn is beneficial  
& if powdered, mixed with the corn will kill the  
caterpillars. or (salt) it may be dissolved in water &  
scattered over the heaps. Cutts 338

" a small heap of corn (grain) left undisturbed  
frequently turning over the pest is a sure & simple  
plan of catching the larvae. They can easily  
be destroyed by pouring boiling water over them  
Cutts 338

perhaps dark colored  
immos none

*Melanippe* (Huf.) *gothicata* (Linn) Mor 62

*Grindaria* Trut. & Schaef.

{ *Melanippe hastata* Linn not distinguishable from *M. g.* } Ins pl 52  
taken in Labrador Park. Proc Amer Acad. Sc. 1869 — } fig 15. Md.

Hab Md. (F.) London, Can. scarce. Quebec common (Saunders) Can Can Ent 1. 13.

intermedius  
intermediata

*Melanippe intermediata* (Linn). Mor 62.

Ins pl 62  
fig 7. Md.

Hab Va (Mor) Md (F.) Can. rare (Saunders)

Canada Saunders *Melanippe lacustrata* (Linn) Morris 62. # *propugnata* Walk.

? *lacus* a lake pool 1

Hab NY. (Mor) Can (Saunders)

avt agant  
shia, fuscescens (agant)  
of fumes, shry  
Can. Saunders

*Anticla* (Linn) *vasiliata* (Linn) Mor 62.

Hab Can (Saunders)

? series

Can Saunders  
propugno to defend  
fight

*Coremia* Guin *propugnata* W. W. 44

*C. palparia* Walk

*Cicaria* Treisch H. Sch. Mor

*Coremia alternata* Walk.

alternata

" *piprila* Walk G. M. Tr 66 2. 58

Can Saunders

*Chamaelidia borealis* Hub.

*Xipha miter*  
Bion to lue

various belonging to the rock

C.



*G. B. 2005* graceful  
irregular wing  
mottled new and  
or hidden.

*Phalaopteryx* (Steph) *intestinata* (Guén) Mor 62.  
*Larentia* (Hübner)

Hab, Can rare (Saunders)

Ins pl 88  
fig 80 coll of Mr Saunders  
Can.

2

*Plamysia*  
*Phobocryptus* *multifasciata* Lun Mor 11  
*Hesperia* " of Dr Mor Coll.

multus, many, much  
fasciatus stripes

Hab Ma (IG) London Can. very rare (Saunders)

Ins pl 85  
fig 44 Ma

exotensis  
darkness.

*Scotosia* (Steph) *undulata* Lin. of Sanborns coll. Belham N. Nov Scot Ent 2/17  
*Eucosmia* *undulata* Gots Coll. Fitch 16th Rep. 353

undulatus wavy or  
full of waves

*Eucosmia* the scallop shell moth. Newman 178

Ins pl 52  
fig 21 Ma.

Hab Ma. (IG), London Can rare (Saunders) Can (Can Ent 1.13.  
Nova Scotia Belham

Low Cherry.

dubito to dubit

*Scotosia* *dubitata* Walk Saunders list. The tissue moth of Newman 176

Ins pl 87  
fig 12 Coll of Mr  
Saunders Can

Hab Can (Saunders,

Can Saunders  
afformis to afformis  
afformis

*Scotosia* *afformaria* Walk.

mapyrow to envelope  
Can Saunders  
magnolia a tree

*Spargania* (Linn) *magnoliata* (Guén) Mor 63.

Hab Can

xidapas  
a brown or brown  
later black  
coloratus colored

*Xidaria* (Schleich) *atricolorata* ♀ G. H. coll

CXVIII/9

Ins pl 71  
fig 9. Coll of Mr G. H.

annatus golden

*Xidaria* *diminutella*  
~~annata~~ Sanborns coll.

see also over page

Hab N Hamp Sanborn.

Ins pl 98  
fig 6. coll of Mr Sanborn  
& 7. from N Hamp.

*Xidaria*

Sp fm Canada

Ins pl 45  
fig 6  
Coll of Mr J. J. G. Lewis Eng  
(135)

*Cidaria diversilunata*. Saunders Rep. Insect growers Assoc. Ontario 1870. 104

Lar passes the winter sometimes if not invariably in the caterpillar state. hibernating in some secure retreat. These larvae which had hibernated entered the chrysalis state in early spring the moth was produced about 10 days afterwards. which paired deposited their eggs on the foliage which hatched into caterpillars. early in June these attain full size in June. change into chrysalides &c. appear as moths in Aug. these latter deposit their eggs from which larvae are again produced which attain nearly full growth before winter & hibernates as larvae.

*Cidaria Lachspargata* Walk 88/17.

*Cidaria truncata* Huf. Pack. Proc Amer Assoc. Agr. Sc. 1869

Labrador

*Cidaria abrasaria*. H.S. Pack. Proc Am Assoc. Agr. Sc. 1869.

Labrador

*Cidaria* prob. Pack guide 326.  
Black span worm of Mrs C. Fish's report to the Cape Cod Cranberry growers Assoc.  
Larva found by Mr W C Fish stripping the Cranberry plants  
in Harwich Mass. late in Aug. .50 of an inch in length. & spin no web.  
& probably only an occasional feeder on the cranberry.  
Pupa prob formed under the earth.

(Rept published in Harwich register Mar. Sep. 10. 1869.  
" Lar color dull reddish brown simulating the color of the  
twigs of the plant - its finely lineated with still darker  
lines, "

Good plant foliage  
Cranberry.



*Cidaria* ?

Larva moth of *Cidaria*, has been found by Mr W.C. Fish, on the  
the cranberry plants, in Warwick Mass. late in Aug. see description  
& Packard's guide p. 326 Food Plant. *Cranberry*

*Cidaria cuniculata* G.H. Wm. Lyc Nat Hist. N.Y. 1867 vol 8 p. 29 pl 16 fig 13.

Insc pl 77  
fig 20. fm G.H. Wm.

diversus clavis summa  
diversus clavis

*Cidaria diversus* (Hüb.) Mor G.D. Guen. Pack Guide 326. Can Ent 2/188 Bellum to Nov Scot Ent 2/87  
Larva found by Mr Saunders feeding on the Woodbine  
"body above dark brown with a slightly reddish tint"  
habitus of a darker shade along the dorsal region being the  
color of the wings of its food plant  
Nova Scotia (Belthung) { *Cidaria* also feeds on Grape Vine (Pack)  
Mr. Packard has also found both brown & Green sp. in subcaneum feeding on Grape Vine (Pack)

4 L.P. Ins pl 108  
fig 9. Ins in  
fig 208.

*Cidaria hirsutata* Guen Mor O. { *Cidaria* also feeds on Grape Vine (Pack)  
Larva cat. part of *Cidaria* I draw the remaining hirsutata moth.  
by light yellow thorax. Can Nat. 2. 123. I have the hirsutata  
occasionally in the larva  
state, hirsutata in some  
secure network.

Insc pl 88  
fig 3. coll of M.  
Saunders Can.

Hab Can (Saunders)

propulsata to *Cidaria*  
away

*Cidaria propulsata*. Sanborn Coll.

Hab Mass. (Sanborn) poor figure.

Insc pl 92  
fig 7. coll of M. Sanborn  
Mass.

*Cidaria propulsata* Leno  
Shurtliff *Cidaria* (Euphyas Pack. S.)  
Ins. Sp from the White Mtns N.H.

Insc pl 93  
fig 8. coll of M. Sanborn

Hab N.Hamp. (Sanborn)

*Cidaria shurtliffi affinis*

Insc pl 88  
fig 19. coll of M.  
Saunders Can

Hab Can (rare) (Saunders)

*Cidaria prunata*. (auth Sanborn)

Ins from Mr Washington N.Hamp. Aug  
Hab N.H. (Sanborn) imp fm Europe (S)

Insc pl 94  
fig 30. coll of M. Sanborn

*Cidaria* ?

Ins from Summit of Mt Washington N.H.  
Hab N.Hamp. (Sanborn).

Insc pl 94  
fig 34. coll of M. Sanborn

*Cidaria hastata* Guen *Epropulsata* Walk. *C. lachispargaria* Walk

*C. immanata* Walk. L  
a var. *russata*. Mor

Fam Eubolidae Mor Cat 68

*Eubolia* Lap.

Fam Sionidae "

*Heterophleps* Hsch

*Oderia* Bdv.

\* (*Helionata* not in Mor.)

*Unicoryx* Stgh.

*Hybernica* Latr.

Fam. Euboliidae Mor. Cal. 63

23 melle  
Bdlos. cast or thronum  
custodia to fuscescens

*Eubolia* *Sty.* *custodiata* *Enn*  
*Cal. Calif.* *mor.*

Fam. Pionidae Mor. 63

*Heterophleps* (H. Sch.) *triguttaria* (H. Sch.) Mor. 63.

23 pos dissimular  
bi three galla drops in spots

*Hab* Pa (Mor) Md (H) Can common (Saunders.)

*Ins* pl 47  
fig 1. Md

23 to submerge  
allus white  
initiales striped

*Baptisia* (Hüb.) *albivittata*. *Guin* *Grote* *PESP.* 2 p. 67. pl 3 fig 29 & *PESP.* 3 p. 542.  
*Colonia*. *Guin*. " *Guin* Mor. 63.

" *Ins.* resembles the European *B. tibialata* & appears general in its distribution through the middle states" (En)  
*Insago* appeared June 7<sup>th</sup> *Can.* (Saunders)

*Ins* pl 65  
fig 15. *Man* coll of  
M. Saunders.

*Hab* *Man* (Saunders); *Mid St. Can.* *Long Is.* (Grote) *Can.* (Saunders)

*Ins* pl 73  
fig 6. *Man* *Grote* fig

*Baptisia* (*affinis*)

*Ins* pl 44  
fig 3. coll of M. G. G. G.

23 white  
fascia a band

*Baptisia* *albifasciata* *Grote* *Grote* *PESP.* 2 p. 66. pl 2 fig 2. & *PESP.* 3 p. 93.  
*Edania* " "  
*Melanippe* *reciprocatu* *Walk.* *G.R.* & *W.E.S.* 2. 52.

*Ins* pl 73  
fig 5 *Man* *Grote* fig

*Hab* *St. Pk.* *Cal.* (En)

23 pos sun

*Heliomata* (Grote) *elaborata* *Grote* *PESP.* 6 p. 30  
*Eroteia* (alabid) *elaborata* *Grote* *PESP.* 3 p. 542.  
*Baptisia* *elaborata* *Grote* *PESP.* 2 p. 67. pl 3 fig 5 D

*Ins.* flight apparently diurnal

*Ins* pl 73  
fig 4 *Man* *Grote* fig

*Hab* *Va* (Grote)

23 white  
a turbid or mabe

*Heliomata* *insulata* *Gr* *PESP.* 6 p. 30  
*Eroteia* *insulata* *Gr* *PESP.* 3 p. 542.  
*Baptisia* " *Grote* *PESP.* 2 p. 67. pl 3 fig 4 B

*Ins* pl 73  
fig 3 *Man* *Grote* fig

*Hab* *Va*

23 white  
a turbid or mabe

*Heliomata* (En) *cyclodonta* *G.R.* *PESP.* 6 p. 30 pl 4 fig 9. } *Ins* pl 78  
fig 11 *Man* *Grote* fig

*Ins* "male resembles female but the bands on the wings  
are wider" *G.R.*

*Hab* *N.Y.*

hairs minute, white or greenish & brownish a  
short white tuft or fascicle of hairs covering  
entire & imperfect color brownish with brownish  
black.

*Anisopteryx vernata*. Insects destroying

*Anisopteryx vernata* Pech. & Baron 2<sup>d</sup> Rep.  
Nov. 1878. H. 91

*Nothrus ovivorus* (a mite.) destroys eggs. Hely. 3<sup>d</sup> Rep.

*Microgaster* (Hymen.) " Larvae " "

each individual larva as it eats through  
the skin of the Canker worm spins a pale  
greenish white cocoon. The first in company  
these parasites destroy about 10 per cent of the

*Platygaster* Hymen. { Eggs deposited in eggs.  
Larval mites or

*Tachina*? Lip destroys about one  
in 100

Insect *Calosoma scrutator* (C. detroyer, Larva & im.

" " *calosoma* " " "

" *Eumecurus pratorum* L. Bur. often takes as in  
Patten's Hymen. 18 or 20 worms to a very  
bad as food for its lar

*Anisopteryx vernata*.

The winged male was sometimes seen to  
carry the females up the tree by means of his  
wings (several visitors)  
Sanborn

*Anisopteryx vernata*. " mixed of tar which will  
injure the tree & enter of Iowa recommends as a remedy  
of sulphur thickened with flour. When the worms have  
creased it, kill them with another coat  
also shaking the worms off on to a light coat  
of dry straw which is then set fire to them.

Am. Ent. 2, 238

English female  
if all trees  
around the tree  
Cale fall  
on the tree  
inches thick  
can be broken

Other means when on the ground may be destroyed by &

*Anisopteryx vernata* Dr. Ent. 2, 29

*Anisopteryx*. Canker worm

eggs sucked by a mite. *Nothrus ovivorus*

Pach. & 6p

worms injury

also Foster of Iowa recommends  
the worms have creased it  
holly off the worms themselves  
to them? Am. Ent. 2, 238

*Anisopteryx vernata* Dr. Ent. 2, 17. First reports in Michigan in 1864-5. by Sanborn & Howard  
Oil Varin boiled together to a proper consistency so as to form an adhesive  
mixture is said to be better than tar (to form a very round the trunk & as  
to prevent the females from ascending) as it does not dry up on hot  
days. Tar however is also recommended

1.00 & 10-footers black clay yellow or greenish, commonly  
with ash gray look. Spots yellowish stripes along  
each side of the body. Fore wings large thin white  
all gray with whitish spot on middle edge near tip  
caused by 2 ragged whitish bands. Hairs whitish  
along edges. A row of black dots on base  
of wings. Head wings pale ash with blackish dot in  
the middle. Very variable white bands often wanting  
of ground under ground

*Anisopteryx vernata*.

Remedies bandages of old rags 3 or 4 inches wide put tightly around trunk abt 3  
feet from ground. secured with thick clay wash. When dry covered with tar as  
much tar as will cling to the bandage without running from the bark thus  
injuring the tree. this should be applied shortly before sundown. Renewed every  
mild evening, as long as the males are about, to prevent the tar from becoming  
hard & dry. any combination oil may be mixed with it to advantage  
also a belt of sheepskin saturated with kerosene oil with the woolly side  
out is said to be if carefully applied & kept constantly saturated is prob a  
useful remedy. Bethune Rep. Insect growers Ass'n Ontario Can 1876, 87



1866 *Linn.* ? *Har.* *Washington* 11

Can farmer May 1. 1867

larvae unequal  
tapering wing  
various of or belonging to  
spring

*Anisoplexis* (Stevens) *vernata* (Peck) Harris 461 Mor 68. Pack guide 324  
*Phalaena vernata* Peck. Not that of Canker? Fitch To NY Sag Soc. Vol 16. 1856. p. 242  
worm published by May Soc. for promoting agriculture  
Canker worm Harris

Eggs short & cylindrical from 60 to 100 or more arranged in rows & glued to the surface of bark  
hatch about mid May  
larvae when young pierce holes in the leaves but when  
older consume the whole substance of the leaf  
except the larger veins or ribs. & feed for about 4 weeks  
Lar 18  
Diapae formed under ground beneath the tree in a hole & cell  
Insect. The female crawls up the trunk of the tree to  
deposit her eggs late in the autumn or winter  
but mostly early in the spring. The female is  
apterous or without wings. While the male  
is furnished with perfectly formed wings  
In pt 65  
figs 16, 17 coll  
of Mr. S. B. Sauborn  
Man

match in Dec End 1.89 states  
that many females of this species  
came out in Nov. & on fine  
warm days in winter.

Hab Mass. (Har) Mich. (C) Can Common (Saunders) Can. (Can End 1.89)  
St Catherine's

Parasites *Platygaster* 368 Hymen *dentus* eggs Food plants Elm Apple Cherry Plum  
" *Eubius fraternus* Har 367. Hymen fig pl. 27. 28. not fig 8  
" *Calosoma scrutator* Har 367 Coleop. pl. 19 fig 27.  
" *Tachina* Har  
" *Hypocanid maeulata* (L.) p. 25 fig 65. Hym. 117. eats eggs (probably) Can End 1.186

Parasite *Tachina*  
delivered about 13<sup>th</sup> of  
October. Rept. 1869. 103.

Note these insects are principally confined to the more northern States, added they  
are now said to have made their appearance in the orchards in Mich.

Parasite. *Microgaster* *dentus* *Coleophila* *Am* End 1. 246  
*Platygaster* *minor* *dentus* eggs. Fitch. *Am* Mod. X. 63

*Anisoplexis vernata* eggs destroyed by a *Platygaster*  
see *Am* Nat. X. 43.

*Anisoplexis* of the orchard. Can. 462 Mor 68. Pack guide 325. thinks it a variety?  
Fitch To NY Sag Soc. 1856 vol 16. of a *vernata*.  
p. 363

the smaller than *vernata* with the  
white band of spot missing. It has 3  
interrupted dusky lines across the fore wing  
& an oblique blackish dash near the tip  
of the wing. antennae short slender naked  
body of prothorax oval but  
very flat. legs short & thick  
dark ash above gray beneath

Insect "smaller than *A vernata* - the whitish band or spot  
is wanting. The moth has also 3 dusky lines across the fore  
wings. & an oblique blackish dash near the tip" Har.  
In pt 65  
fig 18. Coll of  
Mr. Sauborn Man

Hab Mass (Har)

Food plant Apple.

Parasites probably same as attack *A vernata*.

Hab London Can. not uncommon (Saunders) Man. (Sauborn, Harris.)

*Quaba* Saunders. *Anisoplexis rusticus* Walk  
relative to genus or section

Hab Can

*Ribesia* prop. name *Cybernia* (Linn) *tiliaria* Harris Morris 63. Harris 573. Pack guide 325  
ages. *Exanys* " " Har. Fitch To NY Sag Soc. 1856 vol 16. p. 343  
prob *Hibernia* from Linn. two winter moth Harris Lar. l. marked measure worm (Fitch 1856. 343.)

*Tilia* two Linn

Eggs deposited here & there in clusters on branches  
Lar June eats, hatches in leaves, when about to change descends  
to the ground by means of a silken thread. It hatches yellow with  
innumerable black lines along the top of the back & on each & opposite "back"  
Pupa formed in a small cell 3 or 6 inches beneath the surface of  
In 8 pt 23  
fig 10 coll of  
Mr. Sauborn Man

*Hibernia brumata* Europe said to be inhabited parasitically by a fly, autumn  
by a fly. *Am* End 1856. Pack 33

Hab Man. (Har) N.Y. (Fitch)

Female Saunders  
de. name  
of male

*Cybernia cythararia* Linn

Food plants Apple Elm & lime or  
1-25. In winter black or hazel yellow often with black  
whitish & pure yellow streaks along the back & generally  
a N shaped mark upon its front  
In summer makes a rather yellow, fine wing  
& many brown lines, the forward one often faint,  
& a N shaped mark upon its front  
Female wingless greyish or greenish white, sparsely  
on sides with black dots. 8 square black spots  
of each wing except the top which has only one.  
Front of head black, antennae very much enlarged  
with last tip with a tapering joint & egg tube



## Tortricidae Leach. Westwood.

<i>Hypercallia</i> St. John	<i>Bactra</i> St.	<i>Capua</i> St.
<i>Chlophila</i> Hüb.	<i>Abatia</i> Hüb.	<i>Chromatophila</i> St.
<i>Eanis</i> Hüb.	<i>Enephacia</i> Cuv.	<i>Argyrotaea</i> St.
<i>Tortrix</i> St. (v. Clem.)	<i>Senecons</i> St. (v. Clem.)	<i>Orthotania</i> Cuv.
<i>Loxotaenia</i> St. (v. Clem.)	<i>Orthotania</i> St. Cuv.	<i>Rhyacionia</i> Hüb.
<i>Philedone</i> Hüb.	<i>Melocoma</i> Hüb.	<i>Eupacilia</i> St.
<i>Detuba</i> St.	<i>Pachychroma</i> St.	<i>Phthorocera</i> St.
<i>Anthesia</i> St.	<i>Ptycholoma</i> St.	<i>Cochylis</i> St.
<i>Spilonota</i> St.	<i>Eucromia</i> St.	<i>Loxopetra</i> St. (v. Clem.)
<i>Housimone</i> St.	<i>Leptoderus</i> St.	<i>Xanthosetia</i> St.
<i>Pseudotomicia</i> St.	<i>Surrothripus</i> Cuv.	<i>Phloeocera</i> St.
<i>Steganoplycha</i> (v. Clem.)	<i>Peronea</i> Cuv.	<i>Orthotania</i> St.
<i>Uncylotera</i> St.	<i>Ascleris</i> Hüb.	
<i>Phthalca</i> St.	<i>Leptogramma</i> Cuv.	
<i>Troxana</i> St.	<i>Teras</i> St. (v. Clem.)	
<i>Carpocapsa</i> St.	<i>Dictyopteryx</i> St.	

## Saunders list

*Loxotaenia*  
*Podusa*  
*Teras*  
*Scaphula*

## Morris list

*Loxotaenia*  
*Tortrix*  
*Carpocapsa*  
*Penthina*  
*Argyrotaea*  
*Croesia*  
*Ephippiphora*

## Clemens P.E.P. 57/13.

*Stigmota*  
 + *Senecons*  
 + *Loxotaenia*  
 + *Xanthosetia*  
 + *Steganoplycha*  
 + *Tortrix*  
 + *Halonota*  
 + *Leptoris*  
 + *Microtus*  
 + *Mixodia*  
 + *Sideria*  
 + *Euryptychia*  
 + *Callimosema*  
 + *Stigmota*  
 + *Grapholita*  
 + *Cedya* Agass.  
*Exartema*

## Arrangement of Genera St. in Mss. J.G.

<i>Tortrix</i> — West.	<i>Dictya</i> — Agass. Tort.
<i>Loxotaenia</i> — "	
<i>Detuba</i> — "	
<i>Anthesia</i> — "	+ <i>Stigmota</i> — Clem.
<i>Spilonota</i> — "	+ <i>Halonota</i> — "
<i>Steganoplycha</i> — "	+ <i>Leptoris</i> — "
<i>Uncylotera</i> — "	+ <i>Microtus</i> — "
<i>Carpocapsa</i> — "	+ <i>Mixodia</i> — "
<i>Enephacia</i> — "	+ <i>Sideria</i> — "
<i>Senecons</i> — "	+ <i>Euryptychia</i> — "
<i>Pachychroma</i> — "	+ <i>Callimosema</i> — "
<i>Peronea</i> — "	
<i>Teras</i> — "	
<i>Argyrotaea</i> — "	+ <i>Stigmota</i> — "
<i>Croesia</i> — Morris	+ <i>Grapholita</i> — "
<i>Ephippiphora</i> — "	+ <i>Exartema</i> — "
<i>Cochylis</i> — West.	+ <i>Podusa</i> Saunders
<i>Loxopetra</i> — "	+ <i>Scaphula</i> — "
<i>Xanthosetia</i> — "	+ <i>Cryptoleuca</i> — "

As no reliable list of the Tortricidae of the U.S. has been published, no particular order of arrangement has been followed, excepting that all of Westwood's genera are placed first (with Morris' *Guenon*, *Croesia* & *Ephippiphora* between *Argyrotaea* & *Cochylis*) & Clemens' genera last.

Arrangement in back guide.

Tortricidae Pack arrange  
*Anthesia*  
*Sideria*  
*Podusa*  
*Scaphula*  
*Leptoris*  
*Microtus*  
*Mixodia*  
*Sideria*  
*Penthina*  
*Halonota*  
*Grapholita*  
*Steganoplycha*  
*Euryptychia*  
*Callimosema*  
*Stigmota*  
*Exartema*  
*Argyrotaea*  
*Uncylotera*  
*Carpocapsa*

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red fruits with 6 petaloid, 8 nerved & 2 anal lobes  
in a leaf curled up by the insect itself hardened  
tube open at each end & which they serve them for  
as shoots of various plants, fastening several of the  
new growth. Others again reside within the pulp  
apple & stem, to which they are occasionally very

distinguished by their broad entire fore wings, which  
 are slightly deflexed at the sides & dilated towards  
 the apex. very compressed max palps never prominent. M

W. Walsh

Ent Soc Phil

mean when means  $v = v$  reduce in 1 step

oblong. Robinson *Tr. Acad. Sci.* p. 272. pl. 5 fig. 32.

er) & generally reason as - in the eastern States. (R) Packard guide 33p

Mt Washington (Sanborn)

Ins/pl 93  
fig 13. fm Mt Washington  
coll of M Sanborn.

48/13.

*Fonticula alisellana* n.s. Robinson Tr A E S. 2 p. 267. pl 1 fig 15.

Wab Ohio (R) Can (Saunders)

Ins. pl 59  
fig 7. Coll of M Saunders  
Can.

*Tonnoir brevioratana* Robinson Tr A E S. 2 p. 269. pl 4 fig 248 25♀  
*Leptonis brevioratana* Clem P E S P. 5. p 140. Trach guide 23p,

Hal Mass. (Sanborn) Can West (Pettit) N.Y.

Ans pt 97  
pg 22 of Pettit Coll of M Saunders  
Can.

*Gontrix cana*. ns. Robinson & A. E. S. 2 p. 276 pl 6 fig 50

Lat Pa. (R)

*Jordania caryae* (Walb.) Can. 99/1.

*Toxotrix canyae* n. sp. Robinson In A.E.S.: 2, p. 270 pl. 4 fig. 26.

Hab Hlin. Pa. (R)

*Tortrix cerasivorana* Robinsaw In A. E. S. 2 p. 275 pl. 6. fig. 47 ♂

*Lachnium cerasiocarum* Fitch 1857, p. 64 pl. 2 fig. 3. Nov. 50 Fitch & W. S. Ag. Soc. 1856 vol. 16 p. 382.

Cherry eating tortrix

Larvae July tie the leaves together with a silken thread

Live in a large nest in Societies.

Does may be known by its bright yellow color & none other of the described insects of this genus appear to have the insect wings of so

{ Food plant Ch...

Lab NY (Fitch) Mass (Scribner.)

like the mud <sup>top</sup> of it } Good plant Cherry  
 pure yellow without any  
 smoky or dusky shade  
 Fitch

3. rove yellow head neck red and feet black with a few fine hairs from mouth shining dot, bristles formed in rows.  
4. brown black when adult, outer surface with irregular wavy bands of bright ochre yellow & hair coat on blue tint change to all brownish pale ochre yellow eggs.

(134)

## Tortricidae Leach. Westwood.

<i>Hypercallia</i> Stenham	<i>Bactra</i> St.
<i>Glyphula</i> Hüb.	<i>Abactia</i> Hüb.
<i>Eanis</i> Hüb.	<i>Cnephasia</i> Cist.
<i>Tortrix</i> L. (5 Clem.)	<i>Semconis</i> ? (5 Clem.)
<i>Loxotaenia</i> St. (4 Clem.)	<i>Orthotaenia</i> St. Cist.
<i>Philedone</i> Hüb.	<i>Notoclea</i> Hüb.
<i>Helica</i> St.	<i>Paeidochroma</i> St.
<i>Antithesia</i> St.	<i>Ptycholoma</i> St.
<i>Pulmonota</i> St.	<i>Eucronia</i> St.
<i>Hauimone</i> St.	<i>Lophoderus</i> St.
<i>Pseudotortrix</i> St.	<i>Sarothripus</i> Cist.
<i>Steganoptycha</i> (5 Clem.)	<i>Peronea</i> Cist.
<i>Unchylopera</i> St.	<i>Ascleris</i> Hüb.
<i>Phialaea</i> St.	<i>Leptogramma</i> Cist.
<i>Xoxana</i> St.	<i>Teras</i> Fr. (5 Saund.)
<i>Carpocapsa</i> Fr.	<i>Stictypteryx</i> St.

Capre  
Choc  
Argy  
Ortho  
Rhyss  
Eupa  
Dithi  
Cochy  
Lorop  
Xanth  
Phila  
Colp

*Argyrolepis*  
*Croesia*  
*Ephippiphora*

## Arrangement of Genera &amp; in Mss. J.G.

*Tortrix* — West.  
*Loxotaenia* — "  
*Ditula* — "  
*Antithesia* — "  
*Pulmonota* — "  
*Steganoptycha* — "  
*Unchylopera* — "  
*Carpocapsa* — "  
*Cnephasia* — "  
*Semconis* — "  
*Paeidochroma* — "  
*Peronea* — "  
*Teras* — "  
*Argyrolepis* — "  
*Croesia* — Mor.  
*Ephippiphora* — "  
*Cochylis* — West.  
*Lorophera* — "  
*Xanthosticta* — "

*Diorya* Agass. Tor.  
+ *Stigma* — Clem.  
+ *Halonota* — "  
*Leptoris* — "  
*Imicrotes* — "  
*Mixodia* — "  
*Sideria* — "  
*Euryptycha* — "  
*Callimosema* — "  
*Isoptocama* — "  
*Grapholita* — "  
*Exantema* — "  
*Pedescia* Saunders  
*Seraphula* — "  
*Cryptolema* — "

## Clemens P.S.P. 5/13.

*Stigma*  
+ *Semconis*  
+ *Loxotaenia*  
+ *Xanthosticta*  
+ *Steganoptycha*  
+ *Tortrix*  
+ *Halonota*  
+ *Leptoris*  
+ *Imicrotes*  
+ *Mixodia*  
+ *Sideria*  
+ *Euryptycha*  
+ *Callimosema*  
+ *Isoptocama*  
+ *Grapholita*  
+ *Cedya* Agass.  
+ *Exantema*

As no reliable list of the Tortricidae of the U.S. has been published, no particular order of arrangement has been followed, excepting that all of Westwood's genera are placed first (with Morris' *Quercus*, *Croesia* & *Ephippiphora* between *Argyrolepis* & *Cochylis*) & Clemens' genera last.

Tortricidae Path arrange

Antithesia  
Sideria  
Ditula  
Tortrix  
Leptoris  
Ptycholoma  
Loxotaenia  
Pulmonota  
Halonota  
Grapholita  
Steganoptycha  
Euryptycha  
Callimosema  
Argyrolepis  
Unchylopera  
Carpocapsa

Arrangement in Pack guide



*Lunecius* first set the example of having the specific names of the Tortricids end in ana., & the Tineids in Ella (see Tineidae) Pack guide 345.

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Tortricidae Robinson. Tr A E S. 2 p. 261

*allied to genus white*  
*manus* name  
*Tortrix* *Lin.* *albicornana*, Robinson Tr A E S. 2 p. 273 pl. 5 fig. 41. 42  
*Panthristis* *St.* *albicornana* Clem P E S P. 5. p. 137.

Ins. pl. 68  
fig. 11. coll. of W. M. G. & Ellen

Is allied to *Tortrix bergmanniana* Linn of Europe. Robinson  
Haw. Mass. N.H. Va. West Va. Ohio Texas. (Robinson) Ellen (Hatch)

Ins. pl. 76  
fig. 8. coll. Ent Soc Phil

*Tortrix vitana*, Europe. Larva very destructive to the vine in France the larvae roll up the leaves fastening them with threads 18 5, 8; West. 2. 1844

*algebra* coll.

*Tortrix* ~~*algebra*~~ *algebra* (Muesebeck) Robinson Tr A E S. 2 p. 272 pl. 5 fig. 32.  
" *glediana* (Muesebeck) & generally known as in the eastern States (R) Packard guide 334.

Hab Labrador (Mueseck) Mt Washington (Saunders)

Ins. pl. 93  
fig. 13. In Mt Washington  
coll. of W. Saunders.

*Tortrix algebra* Mueseck. 95/13.

*Tortrix alivellana* n.s. Robinson Tr A E S. 2 p. 267. pl. 1 fig. 16.

Hab Ohio (R) Can (Saunders)

Ins. pl. 89  
fig. 7. Coll. of W. Saunders  
Can.

*Tortrix brevicornatana* Robinson Tr A E S. 2 p. 269. pl. 4 fig. 24B 25A  
*Leptoris brevicornatana* Clem P E S P. 5. p. 140. Pack guide 334.

Hab Mass. (Saunders) Can. Mont (Pellit) N.Y.

Ins. pl. 97  
fig. 22. Pellit Coll. of W. Saunders  
Can.

*Tortrix cana*. n.s. Robinson Tr A E S. 2 p. 276 pl. 6 fig. 50

Hab Pa. (R)

*Tortrix caryae* n.s. Can. 99/1.

the inborn

*Tortrix caryae* n.s. Robinson Tr A E S. 2 p. 270 pl. 4 fig. 26.

Hab Illin. Pa. (R)

ceratus cherry  
sore. to scarus

*Tortrix cerasiorana* Robinson Tr A E S. 2 p. 275 pl. 6. fig. 47 B  
*Poronotania cerasiorana* Fitch 1857. p. 64 pl. 2 fig. 3. Mar 50 Edch. Tr N.Y. Soc. 1856 vol 16 p. 382  
Cherry eating tortrix

Ins. pl. 67  
fig. 7. coll. of  
W. Saunders  
Man

Larvae July tie the leaves together with a silken thread

live in a large nest in societies.

Ins may be known by its bright yellow color & none other of the described insects of this genus appear to have the same mix of so

Hab N.Y. (Fitch) Mass (Saunders) pure yellow without any smoky or dusky shade  
Fitch

3 extra yellow round neck and head & legs black with small fine hairs  
from inside looking dark. Pupa brownish yellow  
3 round 1st 2nd white all rest brown. Larva has irregular wavy bands of lighter  
extra yellow 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd 23rd 24th 25th 26th 27th 28th 29th 30th 31st 32nd 33rd 34th 35th 36th 37th 38th 39th 40th 41st 42nd 43rd 44th 45th 46th 47th 48th 49th 50th 51st 52nd 53rd 54th 55th 56th 57th 58th 59th 60th 61st 62nd 63rd 64th 65th 66th 67th 68th 69th 70th 71st 72nd 73rd 74th 75th 76th 77th 78th 79th 80th 81st 82nd 83rd 84th 85th 86th 87th 88th 89th 90th 91st 92nd 93rd 94th 95th 96th 97th 98th 99th 100th 101st 102nd 103rd 104th 105th 106th 107th 108th 109th 110th 111th 112th 113th 114th 115th 116th 117th 118th 119th 120th 121st 122nd 123rd 124th 125th 126th 127th 128th 129th 130th 131st 132nd 133rd 134th 135th 136th 137th 138th 139th 140th 141st 142nd 143rd 144th 145th 146th 147th 148th 149th 150th 151st 152nd 153rd 154th 155th 156th 157th 158th 159th 160th 161st 162nd 163rd 164th 165th 166th 167th 168th 169th 170th 171st 172nd 173rd 174th 175th 176th 177th 178th 179th 180th 181st 182nd 183rd 184th 185th 186th 187th 188th 189th 190th 191st 192nd 193rd 194th 195th 196th 197th 198th 199th 200th 201st 202nd 203rd 204th 205th 206th 207th 208th 209th 210th 211st 212nd 213th 214th 215th 216th 217th 218th 219th 220th 221st 222nd 223rd 224th 225th 226th 227th 228th 229th 230th 231st 232nd 233rd 234th 235th 236th 237th 238th 239th 240th 241st 242nd 243rd 244th 245th 246th 247th 248th 249th 250th 251st 252nd 253rd 254th 255th 256th 257th 258th 259th 260th 261st 262nd 263rd 264th 265th 266th 267th 268th 269th 270th 271st 272nd 273rd 274th 275th 276th 277th 278th 279th 280th 281st 282nd 283rd 284th 285th 286th 287th 288th 289th 290th 291st 292nd 293rd 294th 295th 296th 297th 298th 299th 300th 301st 302nd 303rd 304th 305th 306th 307th 308th 309th 310th 311st 312nd 313th 314th 315th 316th 317th 318th 319th 320th 321st 322nd 323rd 324th 325th 326th 327th 328th 329th 330th 331st 332nd 333rd 334th 335th 336th 337th 338th 339th 340th 341st 342nd 343rd 344th 345th 346th 347th 348th 349th 350th 351st 352nd 353rd 354th 355th 356th 357th 358th 359th 360th 361st 362nd 363rd 364th 365th 366th 367th 368th 369th 370th 371st 372nd 373rd 374th 375th 376th 377th 378th 379th 380th 381st 382nd 383rd 384th 385th 386th 387th 388th 389th 390th 391st 392nd 393rd 394th 395th 396th 397th 398th 399th 400th 401st 402nd 403rd 404th 405th 406th 407th 408th 409th 410th 411st 412nd 413th 414th 415th 416th 417th 418th 419th 420th 421st 422nd 423rd 424th 425th 426th 427th 428th 429th 430th 431st 432nd 433rd 434th 435th 436th 437th 438th 439th 440th 441st 442nd 443rd 444th 445th 446th 447th 448th 449th 450th 451st 452nd 453rd 454th 455th 456th 457th 458th 459th 460th 461st 462nd 463rd 464th 465th 466th 467th 468th 469th 470th 471st 472nd 473rd 474th 475th 476th 477th 478th 479th 480th 481st 482nd 483rd 484th 485th 486th 487th 488th 489th 490th 491st 492nd 493rd 494th 495th 496th 497th 498th 499th 500th 501st 502nd 503rd 504th 505th 506th 507th 508th 509th 510th 511st 512nd 513th 514th 515th 516th 517th 518th 519th 520th 521st 522nd 523rd 524th 525th 526th 527th 528th 529th 530th 531st 532nd 533rd 534th 535th 536th 537th 538th 539th 540th 541st 542nd 543rd 544th 545th 546th 547th 548th 549th 550th 551st 552nd 553rd 554th 555th 556th 557th 558th 559th 560th 561st 562nd 563rd 564th 565th 566th 567th 568th 569th 570th 571st 572nd 573rd 574th 575th 576th 577th 578th 579th 580th 581st 582nd 583rd 584th 585th 586th 587th 588th 589th 590th 591st 592nd 593rd 594th 595th 596th 597th 598th 599th 600th 601st 602nd 603rd 604th 605th 606th 607th 608th 609th 610th 611st 612nd 613th 614th 615th 616th 617th 618th 619th 620th 621st 622nd 623rd 624th 625th 626th 627th 628th 629th 630th 631st 632nd 633rd 634th 635th 636th 637th 638th 639th 640th 641st 642nd 643rd 644th 645th 646th 647th 648th 649th 650th 651st 652nd 653rd 654th 655th 656th 657th 658th 659th 660th 661st 662nd 663rd 664th 665th 666th 667th 668th 669th 670th 671st 672nd 673rd 674th 675th 676th 677th 678th 679th 680th 681st 682nd 683rd 684th 685th 686th 687th 688th 689th 690th 691st 692nd 693rd 694th 695th 696th 697th 698th 699th 700th 701st 702nd 703rd 704th 705th 706th 707th 708th 709th 710th 711st 712nd 713th 714th 715th 716th 717th 718th 719th 720th 721st 722nd 723rd 724th 725th 726th 727th 728th 729th 730th 731st 732nd 733rd 734th 735th 736th 737th 738th 739th 740th 741st 742nd 743rd 744th 745th 746th 747th 748th 749th 750th 751st 752nd 753rd 754th 755th 756th 757th 758th 759th 760th 761st 762nd 763rd 764th 765th 766th 767th 768th 769th 770th 771st 772nd 773rd 774th 775th 776th 777th 778th 779th 780th 781st 782nd 783rd 784th 785th 786th 787th 788th 789th 790th 791st 792nd 793rd 794th 795th 796th 797th 798th 799th 800th 801st 802nd 803rd 804th 805th 806th 807th 808th 809th 810th 811st 812nd 813th 814th 815th 816th 817th 818th 819th 820th 821st 822nd 823rd 824th 825th 826th 827th 828th 829th 830th 831st 832nd 833rd 834th 835th 836th 837th 838th 839th 840th 841st 842nd 843rd 844th 845th 846th 847th 848th 849th 850th 851st 852nd 853rd 854th 855th 856th 857th 858th 859th 860th 861st 862nd 863rd 864th 865th 866th 867th 868th 869th 870th 871st 872nd 873rd 874th 875th 876th 877th 878th 879th 880th 881st 882nd 883rd 884th 885th 886th 887th 888th 889th 890th 891st 892nd 893rd 894th 895th 896th 897th 898th 899th 900th 901st 902nd 903rd 904th 905th 906th 907th 908th 909th 910th 911st 912nd 913th 914th 915th 916th 917th 918th 919th 920th 921st 922nd 923rd 924th 925th 926th 927th 928th 929th 930th 931st 932nd 933rd 934th 935th 936th 937th 938th 939th 940th 941st 942nd 943rd 944th 945th 946th 947th 948th 949th 950th 951st 952nd 953rd 954th 955th 956th 957th 958th 959th 960th 961st 962nd 963rd 964th 965th 966th 967th 968th 969th 970th 971st 972nd 973rd 974th 975th 976th 977th 978th 979th 980th 981st 982nd 983rd 984th 985th 986th 987th 988th 989th 990th 991st 992nd 993rd 994th 995th 996th 997th 998th 999th 1000th

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*Gnomicus ellipticus*  
*Coleophora caryoschela conyoschela*  
 " *reburnella Ostrogia tetraschela*  
 " *quercella leucochrysa*  
 " *concolorella rosaschela*  
 " *rosacella erasipennis*  
 " *cornuicarpella*  
*Diachronia velatella*  
*Nephelica conyoschela ostrogia schela*  
 " *virginella plataneella*  
 " *crataegella*  
 " *microtheriella juglandifolia*  
 " *caryoschela rubicella*  
 " *villosella umbrinuchella*  
 " *pinusella autumnella*  
 " *platan rosaschela*  
 " *lufaschella fuscoschela*  
 " *sagittella*  
*Catastiga lividella acerella*  
 " *hummarcella*  
*Opistoga albogasterella*  
*Unicolapha alacella*  
*Senega pomitella*  
*Heterocoma servatella*  
*Mesodia margaritana*  
*Strobilina indeperella emblemella*  
 " *leviperella*  
*Brenthia inflatella virginella*  
*Mammara salicella*  
*Glyptopteryx impignitella*  
*Lelechia rhepunctella rubidella*  
 " *detensella nigrotenella*  
 " *micropunctella fuscopunctella*  
 " *glivemacellula labracella*  
 " *lucustipendula punctifera*  
 " *grolunella apicellula*  
 " *pallipunctella brunella*  
 " *nascepuscella gallaegutella*  
 " *salicifungella*  
*Holccera chalcoprontella gilbecilla*  
 " *purpuracella modestella*  
*Enicostoma packardella*  
*Pigrella ochro cornella calicella*  
 " *laticaputella*  
*Homoselia micinulatella*  
 " *costisignella*  
*Chaetodus canicinctella*  
*Laverna*  
*Chrysocista*

*Cycloplasia paracypselia*  
*Euchista brachychelys schela orichalcella*  
*Wilsonia breviscella*  
*Euplocamus*  
*Stelbasi laquella*  
*Lampronia caputella (Europe)*  
*Pterophorus angustifus periclydactylus*  
 " *caniclydactylus*  
 " *leucidactylus*  
 " *marginaldactylus*  
 " *naevosidactylus*

*Tortrix cinderella* } Riley to the Rep #6.  
*Green apple leafyer* }

L webs leaves together generally folding a single leaf in two  
stays within the fold. very minute & drops to the ground  
when disturbed in feed; the caterpillar does not confuse itself  
to the *Panarchia*. found in company with *Pemphilia hammondi*  
on apple foliage. - the pupa is found in the folded leaf.

Wal. Mo.

Ins. pl Cxvii. fig 6

~~*Tortrix albidana* Macdunn 12/12 near~~

*Tortrix gonypheana* Pack 335

mentions in #275 as  
making the lower short & terminal belt  
marked & broken by the convexity of the end  
of the "scales", indicating a the end of the "scales"  
the "scales" short & thin  
the "scales" double.

conspicuous confused  
on most together

*Tortrix confusana* ns. Robinson Tr A E S 2 p 274 pl 5 fig 48.

Hab (Pa) (R)

? discus a disk on  
round plate  
punctatus white.

*Tortrix discopunctana* Robinson Tr A E S p 276 pl 6 fig 51.

*Calostathma discopunctana* Clem Tr Acad NS Phil 1860 p. 355

Ins pl 88  
fig 19 coll of  
Mr Saunders  
Can.

Hab Mass. N.Y. Pa. (R) Can. (Saunders)

flaccidus faded  
or weak

*Tortrix flaccidana* ns. Robinson Tr A E S p 277 pl 6 fig 53.

Hab Texas. (R)

LoXIX/2

flavus of a bright  
yellow color

*Tortrix flavolana* Robinson Tr A E S p 278 pl 6 fig 55

*Platynota flavolana* Clem Tr Acad NS Phil 1860 p. 348.

Hab N.Y. Mass. Pa. (R)

fractus broken  
with a band or line

*Tortrix fractivittana* Robinson Tr A E S 2 p 265 pl 1 fig 10 B

*Torelania fractivittana* Clem P E S P 5. p. 136.

Hab Pa Mass. (R)

Ins pl 77  
fig 4 coll Ent Soc Phil

fumosa smoky

*Tortrix fumosa* ns. Robinson Tr A E S 2 p. 268. pl 4 fig 17.

Hab Ohio (R)

fumosa smoky  
fervens dusky

*Tortrix f. fumivirana* Clem P E S P 5. 139.

Hab. Va. Clem.

furcata forked

*Tortrix furcatana* Robinson Tr A E S 2 p. 270 pl 4 fig 27 9

*Lichetia furcatana* Walk 13M.

Hab. Pa (R)

fervens dk head  
dusky

*Tortrix fervana* ns. Robinson Tr A E S 2 p 265. pl 1 fig 9 2

Hab N.Y. Mass. Sauton. (R)

fusca brown or tawny  
line a line

*Tortrix fuscolineana* Robinson Tr A E S 2 p. 266. pl 1 fig 11 Clem p E S P 5 p 135.

Hab. Va. Mass. (Pack Rob)



*Tortrix vaccinivorana* } Pack Man Cy. Sep 1870  
 yellow cranberry worm } Am. Nat. Vol. 688 p. 66  
 Hab. N.J. Larva feeds fol. Cranberry

*Tortrix vaccinivorana* Pack. Agriculture of Mass. June 1867 p. 241  
 Yellow cranberry worm. Pack.

Larva draws the leaves together with silken threads, transforms into a pupa within the mass. Larva eats the parenchyma from the upper surface of the leaves until every leaf or twig is injured.

desc. moth unsexed with yellow wings without any decided markings but mottled with deep ochraceous, expands  $\frac{1}{2}$  inch Pack

*Tortrix* " " Har cor 324

Seg. Lar. cuts off & winds up spirally portions of the leaves of *Salix americana* forming a low pendulous nest in which the larva is concealed. Cocoon formed under a leaf Seg.

*Tortrix Lin. flaccidana* Pol. Wm. 102/11

*Tortrix gurgis* ns Robinson Tr A E S 2 p. 265. pl 4 fig 18 ♀

Hab Chic (R)

gurgis, etc. a glutton

*Tortrix gurgiana* ns. Robinson Tr A E S 2 p. 263 pl 4 fig 16

Hab W. Pa. Pa.

nearly allied to *rosaceana* but readily distinguished by the excavate costae of the primaries & the distinctness with which the veins are marked by lines of dark scales (R)

uncertain

*Tortrix incertana* Clem. G E S p 1865 p. 135. Robinson Tr A E S 2 p. 275 pl 6 fig. Red banded cranberry Tortrix Pack in Agriculture of Mass. Hist. 1869 70 p. 361 57 ♂ 53 ♀ sent to Mr Sauson. by Miss Guild of Walspole Mass. as Cranberry worm

Hab Mass. N.Y. Pa. Chic (R) Ohio Pa. Mass. Tex. Pack for plant Cranberry

propo to spiracle below

*Tortrix innexa* ns Robinson Tr A E S 2 p. 274 pl 5 fig 44

Hab N.Y. Pa.

humerus shoulder

*Tortrix humerosana* Robinson Tr A E S 2 p. 275. pl 6 fig 46. ♂  
*Amorbia humerosana* Clem. Tr A E S 2 p. 352.

Hab Pa. N.Y. Mass. Can West. (R)

*Tortrix lampyrosana* ns. Robinson Tr A E S p. 264 pl 1 fig 5 ♀

Hab N.Y. Pa. Mass. (Sauson)

latus broad

*Tortrix latus* ns Robinson Tr A E S p. 266. pl 1. fig 14 ♂

easily distinguished from *pallorana* by its greater size more obtuse apices & straight external margin of anterior wings R.

Hab N.Y. Pa. R.

*Tortrix laterana* ns. Robinson Tr A E S p. 278. pl 6 fig 56 ♀

Hab Pa. (R)

*Tortrix limitata* ns Robinson Tr A E S p. 264 pl 1 fig 6 ♀

Hab Pa (R)

melas back. Dark  
Asp 200 white.

*Tortrix melaleucana* Robinson Tr A E S p. 271 pl 4 fig 29.

*Lophoderus melaleucanus* Walk GGR Tr A E S 2. 53.

*Ptycholoma semfuscana* Clem G E S p. 3. p. 519. Pack guide 355.

Hab Pa Pa. Maine (R)

note analia *Ptycholoma semfuscana* p. 141. p. 16 fig 3.

ms. 83 Sauson coll  
In pl 94 coll of W  
fig 22 Sauson Mss.

*Tortrix maleirana* Lebaron. *Ann. Nat.* V. 209  
 4<sup>th</sup> 1<sup>st</sup> Annual Rep. max Bro. Ellen 20.  
 prob destroyed by parasite *Chasmodon*

*Tortrix melanocarpa* 2 Bens 1<sup>st</sup> Rep. Max Bro. Ellen 1871. 220  
 4<sup>th</sup> 1<sup>st</sup> Annual Rep. max Bro. Ellen 20.

acts on the upper surface of leaf & curling the two sides  
 upwards, till the edges nearly or quite meet & joining them  
 together with a web.

*P. formica* in leaf lined with fine white silk  
 2 broods in a season. & destroys foliage of Apple & Barren

J. CIX.

11 1/2 in 1<sup>st</sup>

*Tortrix*. Europe. Ratzeburg  
 → destroyed by *Torymus chalybeus*. Europe  
 11 ym. 1/4 32  
 2

*Tortrix ocellana* Europe

→ destroyed by *Chelonus dimidiatus* 4 ym  
 1 10/28

→ *Tortrix* Europe. from Ratzeburg.

~~parasite~~ *Pachymorus nubilator* Europe  
 destroyed by. 4 ym 10/22

*xysercus. cranberry*

*Tortrix oxycercana*. Pack guide 334

Tact in Agriculture of Mass. 1864. 70. p. 239

Lar feeds on Cranberry, Samborn. Mass

Its body etc brown, few rings of peculiar, glistening gray mottles, with reddish brown scales, especially towards the outer edge. there are no well defined spots, or bands. wings approx. 1.15 in

See also p 94/17.

white to dark spot

*Tortrix lutescens* Clem P&S.R. 5 p. 138 Robinson Tr A E S. 2 p 274 pl 6 fig 57 ♂

Hab Mass. N.Y. Pa. Or.

small or minute

*Tortrix minuta* ns Robinson Tr A E S. 2 p. 276. pl 6 fig 49.

Hab Tex. (R)

very black

*Tortrix nigridia* ns. Robinson Tr A E S. 2 p 268. pl 4 fig 20. ♀

Hab Ohio Pa Mass. (R)

paler to look pale or more

*Tortrix pallorana* ns. Robinson Tr A E S. 2 p. 266. pl 1 fig 13 ♂

Hab Ohio Illin (R)

yellowish with a mark

*Tortrix paludana* ns. Robinson Tr A E S. 2 p 275 pl 6 fig 45 ♂

Hab Pa N.Y. (R)

Label. *Tortrix pullida*. fig<sup>2</sup> from Clemens sp. in coll of Ent Soc Phila.

Ins pl 77 fig 34 coll Ent Soc Phila

parallel

*Tortrix parallelus* ns Robinson Tr A E S. 2 p. 267 pl 4 fig 17

Hab N.Y. Pa. (R)

*Tortrix peritana* Robinson Tr A E S. 2 p. 277 Pl. 6. fig 52.

*Smicrorot peritana* Clem B. Acad. Nat Sc. Phil. 1860 p. 356.

Ins. sp. much smaller than M Robinsons.

Hab N.Y. Pa. (R) London Can. rare. Saunders

Ins pl 88 fig 34 coll of Mr. Saunders Can

*Tortrix pottitana*. ns. Robinson Tr A E S. 2. p. 269. Pl 4 fig 21 ♂ 22. 23 ♀

Hab Can Mass Ohio Illin. (R)

species very variable.

Ins pl 44 fig 193 coll of Mr. Saunders Can

juvies pure

*Tortrix prunitana* Robinson Tr A E S. 2 p. 271. Pl. 5 fig 30.

*Crassia? unifasciata* Clem P&S.R. 3 p 516.

Hab Mass. Illin (R) Can. (Saunders)

Ins pl 89 fig 6. coll of Mr. Saunders Can



*Loxotamia rosaceana* Har. Reid. Rept. Fruit growers Ass<sup>n</sup> Ontario Can 1870 p. 127  
 Oblique banded Leaf roller.

Lar rolls up leaves into the form of hollow cylinders feeds on foliage when disturbed lets itself down by a silken thread. — when about to change leaves the inside of the rolled up or twisted leaf with a web of fine <sup>yellowish</sup> silk.  
 Pupa when about to change pushes itself out of the rolled up leaf by means of minute prickles across the rays of the hinder part.

Remedy. pick off & destroy all rolled up & twisted leaves, with contents. it has also been suggested to thoroughly drench the trees with a mixture consisting of One pound of Whale oil soap, to 7 or 8 gallons of water a weak solution of Carbolic acid is also recommended (Reid.)

*Loxotamia rosaceana*, Har. Saunders, Rept  
 Fruit growers Ass<sup>n</sup> Ontario 1871. 39  
 Gooseberry currant plum Apple pear cherry  
 Raspberry Strawberry.



- Humura* purple color  
*Tortrix purpurana* Robinson Tr. A.E.S. 2. p. 263 pl. 1 fig. 4.  
 ♂ *Loxotaenia purpurana* Clem. Pr. Ent. Soc. Phil. 5 p. 186.  
 } *Loxotaenia*, probably error of the press in the Catalogue of Mr. Ins. pl. 74  
 } Stephens by whom the genus was introduced, it has however been copied  
 } in several other works by the editors without correction of error  
 } it should be *Loxotaenia* see de Ge. Har. 481  
 }  
 No 5's oblique  
 transverse bands from the  
 oblique bands on the forewings  
 Hab. Pa.  
*Tortrix reticululana* Robinson Tr. A.E.S. 2. p. 272.  
 ♂ *Loxotaenia* ? *reticululana* Clem. Pr. Acad. Nat. Sc. Phil. 1860 p. 353.  
*Tortrix subauratana* Walk. G.R. Tr. A.E.S. 2. 68

Hab. NY. was Va. &c.

- Tortrix fuliginea* Grote Tr. A.E.S. 2. p. 121. } Riley 1st Rep. Mo. p. 153 pl. 2 fig. 3-4.  
*Polya* *Tortrix* } Robinson Tr. A.E.S. 2. p. 271 pl. 4 fig. 28 q  
 Ins. probably varieties of above on *Symphoricarpos* Ins. pl. 97  
 } Lar. in May draws large bunches of leaves of Hickory Tr. A.E.S. 2. 121. fig. 9 & 10 coll. of Mr. Riley  
 } Black Walnut. Where they together with a silkworm Food plants *Symphoricarpos* (Snowberry)  
 } I live together in this nest. Black Walnut. Hickory. Housech. fruit  
 } (ins. 2. 246) which they have on their back. live they hang in great numbers by the tips of their abdomens until the mother  
 } escape.  
 Torques to twist  
 No 5's oblique  
 transverse band.  
 Rose Rose  
*Tortrix rosaceana* (Walt.) Robinson Tr. A.E.S. 2. p. 262 pl. 1. fig. 1-2 ♀ 3 ♂ (aff. 75 P.O. 984 1855. 1. 82.)  
*Loxotaenia* (Steph.) *rosaceana*. } Morris D. Harris 481 Fitch 1859 p. 28. Clem. P.E.S.P. 5. p. 13 Packard  
*Loxotaenia* } Fitch Tr. N.Y.S. 2. 1859. Dec. 16. p. 346. & " Pr. Acad. Nat. Sc. Phil. 1860. 347

(Oblique banded rose moth (Harris) Rosaceous Tortrix (Fitch)

Larva May June draws the young leaves together at the end of the twigs & secreting itself in this shelter devours the foliage. Ins. pl. 12  
 (In May to Sep. May sometimes gnaws off ends of green apples Ins. pl. 16  
 causily, each gnawed spot to become brown & rusty, sometimes to cruch. Ins. pl. 20 var. Mo.  
 Pupae formed in the webbed up leaf or leaves. Ins. pl. 67  
 Insects the early broods in Maryland appear in a few days after the pupae is fully formed. Ins. pl. 8-10 coll. of Mr. Santborn

Food plants Apple Rose Peach Cherry &  
 many Forest & fruit trees (all Cotton? Georgia)  
 1) de Ma (G.) Man. 44. Pa. Fla. Texas (Robinson)  
 Hab. Canada common (Santborn)

- Sentula laticornis or rough  
*Tortrix sentula* Robinson Tr. A.E.S. 2. p. 277. Pl. 6 fig. 54 ♀  
*Platynota sentula* Clem. Pr. Acad. Nat. Sc. Phil. 1860 p. 345.

Hab. Mass. N.Y. Pa. (R)

*Tortrix sanborniana* N.S. Robinson Tr. A.E.S. p. 265. Pl. 1 fig. 8.  
*Sanborn's Tortrix*

Hab. Texas Fla. Mass. Pa. N.Y. (R)

*Tortrix* ?

Hab. N.Y.

Ins. pl. 107  
 13

(138



*Sulphureus*  
brunish color

*Tortrix sulfureana* Robinson Tr A ES. 2. p. 273. pl. 5 fig 37. -40.

*Prosa ? sulfureana* Clem Tr Acad Nat Sc Phil 1860 p. 353

" ? *fulvovirens* Clem PESP 3. 576

" ? *virginiana* Clem PESP 3. 577

" ? *galluvorana* Clem PESP 3. 577

*Conchylis gradana* Walk. GWR Tr A ES 2. 54

Food Plant Bonedust (Riley letter)

In pl 50

Fig 18. Md July.

In pl 82

Fig 16. coll of Mr Saunders Can.

" This is a very variable species & the intermediate forms are so graduated that it is not possible to limit the varieties" (Robinson)

Up. sent sent up in folded web. Aug. 1860. ? 408.

97/26

Hab Mass. N.Y. Pa. Md Va Ohio Illin Flor Texas (Robinson) Md Va (H) Can (Saunders)

vesper. of the evening

*Tortrix vesperana* Robinson Tr A ES. p 266. pl 1. 12.

*Lorotaenia* " Clem PESP 5 p 181.

Hab Mass. Texas N.Y. Pa. (R)

*molacca* molis color *Tortrix molaccana* n.s. Robinson Tr A ES p. 271. pl 5 fig 31

Hab N.Y. Mass. (R)

*Tortrix lapulata* n.s. Robinson Tr A ES p 264 pl 1 fig 7 &

Hab Illin R.

*Tortrix* ?

I. found on Oak. Md. July  
in webs.

Hab Md

L. Plate 9  
fig 7. Md.

In pl 61  
fig 19. Md

*Tortrix* .

Larva made a blister like spot in leaf of  
*Paulonia imperialis* in which the pupa  
was found. enclosed in a slight web. Ma.

I pl 64  
fig 9 Ma in

I. pl 73  
26 Md.

*Tortrix* *U signatana* Pack. in Agricul of Mass. 1849. 70 p. 239

Am nat. W. 655

In. July.

Hab. Maine

Lar feeds on Cherry

food plant Cherry. 138

~~Notana~~

Notophana

Zelleri

94/14 97/28.

Notophana maculosa Fitch  
Drahy luma or Tortrix.

55/7

Tortrix velutinana (Walk) G &amp; S 2. 83

Cacoecia "

Cacoecia Hüb

axos vite oikia house or house

Tortrix transitoriana (Walk)

G &amp; S 2. 83

Cacoecia "



malus an apple tree

*Tortrix malana* Fitch Mor 50. Fitch 5. p. 473.*Brachytania malana* Fitch 3<sup>d</sup> Rep. Myl. Soc. p. 411. (Tineidae) Mor 1. 2. Fitch 5. p. 473. 1855  
many dotted apple leaf worm. or Apple Shoulder Stripped *Tortrix* Fitch  
Eggs probably attached to a leaf. I shot burned apple tree *Tortrix* FitchLarvae eat holes in the middle & notches in the sides  
of the leaves, without forming a web or fold in the leaf  
attains maturity end of June 2<sup>d</sup> brood Aug 4<sup>th</sup> Sep.Ins. pl. 94  
fig. 16. Coll. of M. Saunders  
Mass.

Hybernate in fallen leaf.

Ins. pl. 94  
fig. 16. Coll. of M.  
Saunders Can.Lar. pale green with numerous pale or white dots &  
3 white lines running lengthwise of body. 1. 25.Ins. ash gray with a few grey slender black lines  
marking the forewings. 0.56 to 1. 15.Food plants Apple Cherry Elm Peach  
Poplar & Forest trees.

Hab. N.H. (Fitch) Can. (Saunders) Mass. (Saunders)

*triquetra a bina**Tortrix triquetra* Fitch 2<sup>d</sup> Rep. p. 244. Mor 50.*Triangular Spotted Tortrix* Fitch Tr. N.Y. Soc. 1855. vol. 15. p. 476.C. 30. Outer base of fore wings occupied by a narrow black  
wood stripe. wing white color with a large 3 sided  
black spot on mid of outer marginIns. found in forests before the buds put forth. I closely related to the above T. m.  
color. wing white with a large 3 sided black spot on the middle of the outer margin of fore wings

Hab. N.Y. (Fitch)

Food plants prob Forest trees.

? *Tortrix* aff.

Ins. taken amongst ferns Mass. July

Hab. Mass. (Saunders)

Ins. pl. 94  
fig. 16. coll. of M. Saunders  
Mass.? *Tortrix*

Insect taken in amongst ferns. Mass. July

Ins. pl. 94  
fig. 17. coll. of M. Saunders  
Mass.

Hab. Mass. (Saunders)

? *Tortrix* aff.

Insect taken July Md.

Ins. pl. 94  
fig. 21. Md. July

Hab. Md. (Fitch)

? *Tortrix* ?

Ins. sent in a collection for Michigan

Ins. pl. 66  
fig. 28. Michigan

Hab. Mich.

? *Tortrix*.

Hab. Ill. (Walsh)

Ins. pl. 69  
fig. 2. coll. of M. Walsh  
Ill.? *Tortrix*

Hab. Ill. (Walsh)

Ins. pl. 69  
fig. 3. coll. of  
M. Walsh Ill.  
1858





*Ascos obliqua*  
*Tarva obliqua*

*Loxotermia gossypiana* Pack guide 386.

*T. g. S. O. Ag. Rep. 1854 p. 61. 1855 p. 85?*

*gossypiana*  
 cotton tree or shrub

*Forbix*

Cotton leaf roller.

larva rolls up the leaves of Cotton.  
 Feeds upon the substance

*L. P. Ind. pl. 12*  
*19 21. S. C.*

Food plant Cotton.

Var. S. C.

See also Anchylopera 149

*Lorotarsia fragarana* Pack guide 335.

See also *Anchylopera*

The 50. of an inch in size with red fore wing darker on the outer half  
with a large triangular white spot near the middle of the costa  
the outer edge of the spot is hollowed out hind wing & ab. whitish buff.

Larva early in June fold the leaves. - of Wild Strawberry

5, mid June Maine

Kab Maine. Pack

Food plant Wild Strawberry.

*Lorotamia prope* rather longer than head. & differs from *Tortrix* in the male having a fold or flap of scale extending to nearly the tip of the fore wing while the outer edge is invaginated below the tip which is bristles produced upwards. the larvae of this genus feed in leaves the cores of which are brown together by silver threads or in the stems & seeds of plants. (Pack guide 335.)

10 legs oblique  
Tarsal stripe

*Lorotamia rosaceana*. see *Tortrix* p 138.

*Lorotamia cerasmorana* see *Tortrix* p 138.

broken band H?

*Lorotamia practivittana* see *Tortrix* p 138.

*Lorotamia purpurana* see *Tortrix* p 138

*Lorotamia*  
*Tortrix*

Hab Allen.

Ina pl 69  
fig 38. coll of Mr Walsh  
Him.

Does agree  
Kaudus fair or pleasant

*Notula* (St, blandana. Clem P.C.S.P. 3 p 575.

fig 12.  
Ina pl 82  
fig 14 coll of Mr Saunders Cum.

Hab Musio. (Clem) London Can. (Saunders)

" *Notula angusticornis* European. Larva does great damage in England to the apricot trees in early spring by being too young & having a greenish with threads so firmly that their growth is stopped & by devouring the young ~~leaves~~ buds. " *Notula* 2/1/18

drags against  
nimbus a cloud

*Anthracis* (St, mimatana Clem. F.E.S.P. ?

Ina pl 82  
fig 15 coll of Mr Saunders  
Cum.

Hab London Cum. (Saunders)

forming a brown mass  
or ring

*Onthodesia pruinana* Hüb Pack guide 333.

a destructive moth in Europe when it denours the Plum (Pack)

Lar yellowish green with a jet black head & prothoracic shield  
pupa formed late June  
In. July  
found later in N.S. by Mr J. H. Putnam on the rose (Pack)

Ina pl 65  
fig 8 coll of  
Mr. Sautorn

Hab Man. Sautorn

*Anchylopera*.

*Anchylopera vaccaeana* Pack guide 339. pl 8 fig 21.

Cranberry *Anchylopera* Pack

Cranberry or fine worms Rept. Wm C Fish to Cape Cod cranberry growers Ass.  
for Yarmouth, negative Mass. Sep. 10. 1869.

Eggs remain on the plant all winter Hatch from 20 May to 1<sup>st</sup> June { Insects 100  
Larvae feed on the tender growing shoots drawing the leaves together fig 7 from Pack  
with their webs for shelter & conceal them selves within feeding on the  
foliage. having reached their full size in about 2 weeks they spin up in a  
slight cocoon among the leaves or nestled on the ground

Supra state lasts 10 to 13 days

Is numerous from 10<sup>th</sup> June to 1<sup>st</sup> July. Eastham Mass. 3<sup>d</sup> crop of eggs  
laid Aug or Sep. May eggs which remain on the plant all winter.

Good plant for Cranberry.

Another Tortricid Lar. Pack guide 340.

Cranberry. Fruit worm.

Larvae thicker having a larger squarer prothoracic ring & a less hairy body  
than the above. Appear 1<sup>st</sup> Aug. work all the month the first signs of their presence  
are seen in the berries that are attached turning prematurely red most of them  
reach their full size before Sep. when fully grown they enter the ground &  
spin their cocoons within a few inches of the surface the cocoons are covered  
with grains of sand & are hardly distinguishable from small lumps of earth  
They remain in the ground all winter. Pack

a similar Larva see pl 98 fig 11. from New Jersey.

see also *Leptotoma* P. 139.

*Anchylopera fragariae* Walsh & Riley Riley 1<sup>st</sup> Rept. Mo. p. 146. pl 2 figs 26, 27.  
Hb. W. C. Ent. 1. 89. fig 1  
Strawberry leaf roller. Can Ent. 1. 89. Can Form. Aug. 1. 67. Am Ent

Lar examples fold the leaves feeding on their pulpy substance & causing  
them to appear very distorted 2 broods in a season 1<sup>st</sup> June 2<sup>d</sup> Aug. Sep.  
pupa of first brood formed in the rolled up leaf 2<sup>d</sup> brood Sep.  
pass the winter in the pupa state

Cal. Ind. Illin Can. Can (Can Ent. 1. 89) Good plant Strawberry

In pl 97  
fig 4 coll  
of Mr Riley



σπίλος spot  
 ὠφθαλμός back  
 οὐκὸν an eye

*Opicnota* (Steph.) *oculans* de capreusca 1. 1/1

στεγανός closed or covered  
 πτυχ. fold.

*Steganoplycha* (Steph.) *crispans* Clem PEST. 3 p 136.

ἄνθος golden yellow

*Steganoplycha* (Steph.) *flavocellana* Clem PEST. 3 p 137

*Kab. Va.*

*Steganoplycha* ? *variana* (Maine) Clem PEST. 3 p 520.

*S. ochreana* (Va) Clem PEST. 3 p 520.  
 referred by Mr Robinson to *Grapholita* (Pack guide 337.)

ἀκνός acane  
 πέρας. ens.

*Unchlopera* Steph. For Acad Nat Sc Phil Aug 1860. p 348. PEST. 3 p 509.

*U. ocellana* (Maine) Clem PEST. 3. 511

μενίσ the middle  
 fascia a band

*U. medianasciana* (Maine) Clem PEST. 3. 511

*U. fasciellana* (Maine) Clem PEST. 3. 511

pulchellus beautiful

*U. pulchellana* (Va) Clem PEST. 3. 511

πύρις brown  
 ἑνία a line

*U. fuscolineana* (Va) Clem PEST. 3. 512

*U. dubiana* (Va) Clem PEST. 3. 512

*U. virginiana* (Va) Clem PEST. 3. 512

λάμια a with or across

*U. lamiana* (Maine) Clem PEST. 3. 513

βλαγανός upstroke or whisp

*U. plagasana* (Lao) Clem PEST. 2. 417.

νυκτα small cloud

*Unchlopera* (Steph.) *nubicularis* Saunders Coll

*Hab London Can rare. (Saunders)*

*Unchlopera dubiana* Clem  
*grapholita disceperana* Walk GVR 75 CES 484

σπύρις a plant  
 ὀλένη a leaf

*Unchlopera spireaeformis* Clem Saunders Coll Pack guide 338  
*Grapholita disceperana* Walk GVR 75 CES 2. 514

*Hab London Can rare (Saunders)*

Food plant *vine bark!* *Sporaea opulifolia*

(note this figure does not answer to Packard's description)

στριγνός striped

*Unchlopera strictiana* Clem  
*nubicularis* Walk GVR 75 CES 2. 514  
*Grapholita disceperana* Walk 4 9 4 4 4

*Carposcapa pomonella* Walsh Am Ent. 1. 160

Appears to prefer the Carolina red pine in Klein  
to avoid the Maiden blight. I give it & Benoni

*Carposcapa pomonella*

when apples are stored near a library the larvae  
seeking a place to transform occasionally gnaw small holes  
between the back leaves of books to make a desirable place in which  
to spin its cocoon Dr H. Schmitz. in Am Ent & Nat 2/1823

Brooks

injures little Romanite or giltfin either it is stated not to do. Am Ent 1. 223

*Carposcapa pomonella*.

Remedy Hay bands are more efficient than rays placed in the fork

*Carposcapa pomonella* Riley 5th Ann Rep. 22.

description of mine spars woven traps  
parasites in Europe Phrygodon brevis. Hym.

" " " L. Chalcidognathus pennsylvanicus (Leger)

" " " L. sceleratus (Leger) Say Col

hidden larvae.

trunk is more efficient as it can be  
eaten or scalded, the hay bands, should  
be the 1st  
in the h  
(work)  
measur  
(or elevat  
through

*Carposcapa pomonella* Riley 5th Rep. 1273. p. 48  
Remedies in order of merit 1 paper bandages (con-  
strains wrapping paper) 2 Rays. 3. ties wire to air.  
the latter best. 5 Hay bands. 4. jamming the trunk  
with new parasites. *Biopha annulipes*. 19. 2. its work  
the chrysalis. *Macrocentrus delicatus*. which attacks  
the caterpillar is also destroyed by a  
Linné snake probably a mermis. (H. Foster Ball)  
in Gardener's monthly for May 1870. & a soldier  
this insect is reported as being noticed in California

*Carposcapa pomonella*. Riley 3rd Rep. 103.

Remedy Hay bands more effectual than rays placed in forks

when wound around the trunk &c as they may be passed through a roller  
or scalded & used again. rays should be kept on for 1st May until the fruit is  
gone.

the double broods in St Louis first brood make the mother of late June  
in July the second brood Sept to Christmas spin cocoons - from the winter  
in them as larvae - change to pupae in spring

Riley states that an infallible index to determining the sexes of this month has  
been pointed out by Mr Keller. in Lepidopterologische Beobachtungen 1870.  
which consists of a black pencil or tuft of hairs of considerable length on the  
upper surface of the hind wings &c but omits to state which sex is thus distinguished

also injures peaches }  
& plums. }  
in Canada }

Riley 3rd Rep.

So far when in peaches, live near the stone so that the fruit is little  
injured for eating (?) cooking drying or other purposes

*Labesia botrana*

Remedy rake up & burn leaves (Anthon) as no doubt the greater part of  
the second brood pass the winter in fallen leaves. also pick up  
& destroy all fallen berries. Am Ent 1. 178.

pick off & destroy all infested berries on vines as they invariably  
have a living larva in them. this should be done as early as possible  
& as soon as the berries show symptoms of being infested - 78.

*Carposcapa pomonella* Bethune Rep. Fruit granary Am. Ontario 1870. 91.  
It thrusts out its excrement in the shape of a fine powder through the hole by which it entered  
& when it has reached the heart of the apple it eats a cavity around the core  
& shows some of the seeds it then eats a tunnel through to the side of the apple  
& makes use of this orifice for the discharge of its castings & also to make its  
escape when fully grown

Remedy Hay bands &c when apples are stored in barrels many of the larvae  
will spin up between the hoops & thus it is therefore also advisable to scale such  
barrels as soon as emptied





*Grapholitha oculana* in Pack 1869:70

*Penthina oculana* Pack. Agriculture of Mass. 1869. 70. p. 235.  
apple bud moth

Lar. perforates half expanded leaf & flower buds. when fully grown it crumples the leaves & destroys the tree & does great damage to the fruit buds & flowers.

June in a loose delicate cocoon in the folded leaf  
June & part of July, (Pack)

Apple Pear Cherry (Pack)

*Grapholitha oculana* Reed in Rept. Fruit growers Assn. Ontario Can 1870. p. 128.  
Eye spotted bud moth.

Lar. resides in a bunched up blackened leaf, portions of which are drawn together so as to make a rude case the entire part of which is lined with silk & is parallel to blossom & newly formed fruit. It also gnaws a hole into the top of the branch from which the bunch of blossoms issues & tunnelling it down causes it to wither & die, sometimes it injures the leaves only.

& D.D. "generally injurious in Essex Co. Mass. in 1869. on apple cherry & Pear? Pack.

*Grapholitha oculana* Reed Rep. Fruit growers  
eye spotted bud moth  
Ont. Ontario 1870 26

leaf rolling moth. collects young fruit  
buds for its food

CVIII/22

is dull brownish color with small marks

across the middle 2 small eye like spots on each the one near the tip very compound of 12 little black marks placed close together in a row on a light brown ground the inner marks being longer than the others the second eye spot is near the inner hind angle & is formed by 3 minute black spots arranged in a triangle in the middle of which there is, sometimes a black dot.

*Micropteryx pomivorella* Pack in Agricul. of Mass. 2<sup>d</sup> Ser. 1869:70. p. 209

Larva mines in the leaves of Apple in sep. & Oct. eating its way in the interior of the leaf feeding upon the parenchyma its burrow is marked by a wavy broad dark line on the leaf which dilates at the end into a spatulate expansion somewhat puffed up out, in which the larva nests when fully fed smokes its exit through a slit at the end, when it may often be seen hanging suspended by a thread. Sometimes 4 or 5 larvae will mine a single leaf.

Pupa formed Oct. in a peculiar flattened orbicular silken cocoon about the 10th of Nov. in diameter on the bark of branches & twigs in which it remains all winter.

Hab. Salem & Amherst;

only placed here provisionally

Oct. 19, June.

injures foliage Apple

*Micropteryx pomivorella* Pack. Mass. Ag. Rep. 1870  
Ann. Nat. IV. 684

mines in leaves of apple











no sus v. sus simply  
*Texas* *maculidorsana* ns. Robinson Tr. A. E. S. 2 p. 281. pl. 7 fig. 66.  
 Hab. Mex. (R)

macula spot  
 dorsum back  
*Texas maculidorsana* Robinson Tr. A. E. S. 2 p. 281. pl. 7 fig. 68.  
*Cnephiasia? maculidorsana* Clem. P. S. P. 3 p. 376.  
 note This & the above *Texas* may be varieties of the European *Stachina tenuis* (scabrana) 1946  
 Hab. Pa. Maine. (R)

very black  
 lines line  
*Texas nigrolinea* ns. Robinson Tr. A. E. S. 2 p. 281. pl. 7 fig. 67.  
 Hab. Can. Mex. (R)

perspicuous clear  
 or placid  
*Texas perspicuana* ns. Robinson Tr. A. E. S. 2 p. 280. pl. 7 fig. 62.  
 Hab. Pa. (R)

placidus placid  
*Texas placidana* ns. Robinson Tr. A. E. S. 2 p. 282. pl. 7 fig. 68.  
 Hab. Pa. (R)

semi half  
 annulus ring  
*Texas semiannula* ns. Robinson Tr. A. E. S. 2 p. 282. pl. 7 fig. 70.  
 Hab. Pa. (R)

two three  
 signum mark or sign  
*Texas trisignana* ns. Robinson Tr. A. E. S. 2 p. 282. pl. 7 fig. 69.  
 Hab. Mex. va. (R)

ruburnum plant  
*Texas ruburnana* Robinson Tr. A. E. S. 2 p. 281. pl. 7 fig. 66.  
*Peronea ruburnana* Clem. Tr. Acad. Nat. Sc. 1860 p. 347.  
 Hab. Pa. (R)

*Texas nigrolinea* Robinson 89/9. Cor



*Argyroleptia quercifolia* Fitch. *Centur* 23  
*Ann* 34, 1865 vol. nat. his 26.

*Cataclysta* ? *annulalis* Walk. see next page

6372. L. 16 foals white & slender  
 P. hairs dull yellow on each segment of abdomen  
 2 rows of minute teeth with points curving  
 backward  
 1. sooty black, fore wings with reflexions of brown,  
 yellow, blue, & purple. their outer margin with  
 oblique triangular white checks placed at equal  
 distances apart. 2nd wing, obscure whitish  
 on outer basal half, inner basal half with a blue  
 & gray reflexion. fringe bluish white for 3/4 of  
 great brown yellow. hind breast & base of abdomen  
 brown white. 1st 3/4 following segments of abdomen  
 coal black.

170. 2. grass green. Abundant in the Bay of Honduras.  
 I pale straw. Body white, wings glossy white, fore wings  
 171. 70. Shagreened with numerous small dark spots, running together  
 in many transverse bands, with spots near the more marked.

Fitch Jr. N.Y. Ag. Soc. 1858 vol 18. p. 524.

epipos subery  
 12815 scale  
 quercus oak  
 Toluca leaf

*Argyrolepis* (Stephens) *quercifolia* Fitch 5th Rep. 46. Mo. 50.

Oak leaf Toluca

Hab. M.

"Lar. resides in a thin web covering which it constructs over the upper surface of a leaf towards the base. It feeds on the leaf & continues only the end of the leaf to be severely. Pupa still found in the same situation. No. fore part July, most pale straw color with its body & wings very glossy white (Fitch)

quercus oak  
 ? bellus beautiful

*Argyrolepis quercifolia* Fitch.

Hab. M.

Crosses.

Persica : Peach

*Crassia* (Hüb.) *persicana* Fitch Jr. N.Y. Ag. Soc. vol 16. p. 357.

Peach Toluca Fitch

1856

I rather slender pale green with whitish streak along each side of back. Head pale dull yellowish. Fore wings rather yellow variegated with black. The base of the wings pale brown. A large triangular spot in the middle of each wing. Margin on the forewings white. Streaks forward of ribs have edge which is divided by the veins crossing it. On anterior side by a narrow black band. Fitch

Larva ties the young leaves together in may & creeps along itself within this shelter feeds upon the foliage

Food plant Peach.

? *Crassia* (Hüb.) *virginiana* Com.

4/12. Md

P. *Crassia*.

Hab. Md. (Walsh)

Insp. p. 70  
 Fig 7. coll of M. Walsh Md.

*Epiphyasphora* (Hesperonch.) *caryana* Fitch Jr. N.Y. Ag. Soc. vol 16. p. 459. Mo. 50.

1856.

Epiphyasphora. 2 saddle cloth  
 Pops bearing

Hickory Shuck Malt. Fitch.

Larvae mine into the shuck, which envelope the fruit causing the nuts to be abortive & many to fall from the tree.

Insp. p. 98  
 Fig 3. Md. Ag.

Hab. N.Y. (Fitch) Md. T.C.

Food plant Hickory  
 " " Pymul Hickory Md. T.C. Aug

Fitch Jr. N.Y. Ag. Soc. vol 16. p. 459. Mo. 50. Fig 3. Md. Ag. does the same injury in Md. B upon a comparison with Fitch's somewhat vague description is very closely allied to Fitch's species, if not perfectly identical with it.

201 x 1/2 an apico

*Conchylis* (Treitschke) *agassizii* ns. Robinson Jr. N.Y. Ag. Soc. vol 16. p. 284. pl 3 fig 75.

Agassiz *Conchylis*  
 In May 17.

Hab. Texas Co. Texas.

Insp. p. 98  
 Fig 3. Chickasaw Nation

Insp. sent amongst a collection from Chickasaw Nation by Dr. Palmer & from var. of above.

Hab. Chickasaw nation. Palmer

angular an angle

*Conchylis angularana* ns. Robinson Jr. N.Y. Ag. Soc. vol 16. p. 286. pl 3 fig 81.

Hab. Pa. West Pa. N.

(142)

*Cochylis hilarana* Europe

forms gall on stem of *Antennaria*

these galls are formed by the irritating gnawings of the larva after it is hatched  
 and from any poisonous fluid injected with the egg by the ovipositor of  
 the ♀. Riley 2<sup>d</sup> Rep. 136.

*Cochylis argenti-punctata* Gr

83/3.

les twice  
macula spot

*Conchylis bimaculata* Robinson Tr UES 2 p. 285 pl 8 fig 78.  
Hab Texas. (R)

*Conchylis buntiana* ns Robinson Tr UES 2 p. 285. pl 8 fig 86.  
Hab Pa. (R)

dorsum back  
macula spot

*Conchylis dorsimaculata* Robinson Tr UES 2 p. 285 pl 8 fig 79  
*Londopera* ? angustata Clem. Tr Acad Nat Sc Phila p 354. 1860

Hab Pa. (R)

interruptus interrupted  
fascia band

*Conchylis interrupta fasciata* ns. Robinson Tr UES 2 p. 287 pl 8 fig 86.  
Hab Pa.

labacula a little spot  
on beneath

*Conchylis labaculata* ns. Robinson Tr UES p. 287. pl 8 fig 88  
Hab Pa. (R)

apical pretty heavily

*Conchylis lepidiana* Robinson Tr UES p. 287. pl 8 fig 84.  
*Uryptolepia* ? lepidiana Clem Tr Acad Nat Sc Phila 1860 p 355.

Hab Pa. (R)

promptus prompt or active

*Conchylis promptana* ns Robinson Tr UES p. 286. pl 8 fig 80.  
Hab Texas. Pa. (R)

*Conchylis melanogaster* ns Robinson Tr UES p. 285 pl 8 fig 77  
~~*Conchylis*~~  
Hab Colorado. R.

?

Inu. sent by Mr Saunders Can.

apinis. Ins pl 88  
fig 3. coll of Mr Saunders Can

Hab Can. Saunders Fort Stanley rare

quinque five  
macula spot

*Conchylis quinque maculata* ns. Robinson Tr UES p. 284 pl 8 fig 76.

Hab Pa. (R) Ma ? chockasaw nation (Palmer)

Ins pl 47  
fig 2. Ind.

Ins pl 50  
fig 4. Ind.

? var. Ins pl 55  
fig 12 Chockasaw nation  
Dr Palmer

?

~~*Conchylis*~~ *Calaclypta*

*Calaclypta annulalis* Wall 89/8

Ins pl 51.  
fig 7. Ma.





lobes obliqui  
ripas. end  
angulus narrow

*Loxopera angustana* Clem. see *Conchylis dorsomaculosa* Clem.

juv. a color fuscous  
stigma a furrow or row

*Loxopera fuscostriata* Clem P&P 5. 417  
Hab. Labrador. (Clem.)

Eggs. yellow  
on moth.

albes. to green white or whitish  
margin hunched

*Xanthosclia* (Steph.) *albicomana* Clem P&P 5. 137.

See also. *Tortrix albicomana* P. 138.

Hab. Va. (Clem) Illin (Walsh)

? Ins pl 68  
fig 11. Walsh coll Illin

? Ins pl 75  
fig 8. coll Ent Soc Phil



galls small, greenish. Hedya (Hüb., sarcicola Clem P&S.P. 3 p. 515. Hoya? not sc. Phil Aug 1860. 357  
Salix willow

Larva mines a cabbage like gall on

Ins fig 69

Hab. (Hüb.) Wain

Salix longifolia. Willow Glen

a variety mines a pine like gall on Salix cordata

Hedya sarcicola Clem P&S.P. 3 p. 515.

Larva mines a rose like gall which Mr. Walsh calls

Ins 69

Salix rhomboides, on a Lowly upland Willow

fig 32. coll of

Several being found in each gall

Salix humilis

Mr. Walsh

L. Aug 1<sup>st</sup> to 2<sup>nd</sup>

Hab. Glen (Walsh)

Hedya Emersoniana n. s. Clem P&S.P. 3. 5. 14  
Crested Hedya  
Hab. Va. (Clem)

delute to decune

Hedya delutana n. s. Clem P&S.P. 3 p. 512.

Hab. Va. (Clem)

Signatus marked  
Signat

Hedya signatana n. s. Clem P&S.P. 3 p. 514

Hab. Va. (Clem)

spotted to despoil  
take away }

Hedya spoliaria n. s. Clem P&S.P. 3 p. 512.

Hab. Va. (Clem)

Stigmoneola ? xx/p. See also Simaethis

Triptera. asph. mark

Yates back.

indistinctly divided or separate  
or ? streaks.

Stigmoneola (Guen.) interstinctana Clem P&S.P. 5. p. 133. (Stigmoneola Clem. Præd. Nat. Sc. Phil  
Lachnorumpha sarcicola Walk. G&P. 4. 252. 84 1860 p. 356.

Ins. with a curved blotch or lunule on the dorsal  
margin of the fore wing - the blotch bearing  
one streak.

Ins fig 68

fig 46. coll of M. Walsh  
Hüb

Hab. Va. (Clem) Hüb (Walsh)

Stigmoneola twistigiana Clem P&S.P. 5. p. 133.

Hab. Va. (Clem) blotch bearing 3 lines or streaks.  
on wing.

? deriv

Halicnota (Steph.) tantana n. s. Clem P&S.P. 5. 129. Halicnota Clem. Præd. Nat. Sc. Phil  
1860 p. 357

Hab. Va. (Clem)

Simulans recently

Halicnota simulana Clem Præd. guide 387.

Asotos nearrow

fig 50. coll

breeds short or nates or nates

Lycotris (Clem.) brevioristana Clem P&S.P. 5. 140

Hab. Va. (Clem)

? deriv

Simicrotes costa with a slight fold at the base in ♂, Clem P&S.P. 5. 140.

Simicrotes vireocana Clem P&S.P. 5. 140.

? perianth shield exposed

Simicrotes puritana see Tonboeck puritana

*Euryptychia saliciana* Clem. TESP. 5 p. 141. Proc Ent 1/11  
 Ins. bred from gall on golden rod by Walsh &  
 misnamed *saliciana* (Willow) by a mistake of  
 Clemens. I considered by Walsh as a quail or ingulium  
 on the true gall making insect.

Gall on Golden rod. misnamed (*Sal*)  
 caused by *Euryptychia saliciana*

(new)  
*Grapholotha caryae*. Schumier Tr. Am. Ent. Soc. 2. 344

Larva found Aug. Sept. living in nut of *Carya amara* &  
 Bitternut Hickory where they destroy the interior & cause  
 it to fall to the ground.  
 Hab Illin Ins. appears the latter part of Nov. it therefore hibernates  
 in this state & continues to live in the spring until sometimes  
 in June, when the nut is sufficiently developed to receive the  
 egg (Schumier)  
 Destroy fruit of Hickory Bitternut.  
*Carya amara*.

*Cryptolechia Schlagerii* Zeller 51/3. Mx 9 LXX/13

*Cryptolechia Schlagerella* at LXXXII/13.

*Portmacedae* sp. allied to Fitch & W. H. G. Soc. vol 17. 1857. 736 (Pine needle Fitch)

*Retinia buoliana* (European.)

Larva erode bark under surface of wood at one of the uppermost whorls  
 of the twigs causing a profuse flow of resinous sap, which mingled with  
 the castings of the worm, concretes & forms a covering which hides & protects  
 the depredator the feeding tract is hereby frequently destroyed

injures Pine leading branches &c



? denw  
inermis broken off  
discontinuous

*Mexocda ? intermixta* Clem. P.E.S.P. 5, p. 140.  
Hab Pa (Clem)

oripos iron  
nublas cloudy

*Diderca ? nubilana* Clem. P.E.S.P. 5, p. 140. Pack Guide 333.  
Hab Pa (Clem)

oripos broad  
troughy fold  
solid mellow

*Euryptychia* Clem. fore wings with a broad fold extending to the middle of costa Clem. P.E.S.P.  
*Grapholita* }  
*Euryptychia* (Clem) *sanguinea* Clem. P.E.S.P. 5, p. 140. (getucha gallocaerodaginis Riley) 1873 p. 140  
This probably an intruder, on the nightfall gall native, only 2 1/2 of moth found. Riley  
\* This bred from a Willow Gall (Clem) error really just on (Riley 52)

Hab Him Malin.  
\* This insect was described in 1865 by Jo. Clemm as *sanguinea* under a false impression (Clem)  
(referred by Mr. Robinson to *grapholita* (Pack Guide 337) *fruit & wine cane* (Riley 52)  
*Gall on Willow* (Error) (Clem) *Solidago* (Riley 52)  
*fruit & Willow gall* (Riley 52)

exaltipos most beautiful  
open sign or mark.  
Santellan shines

*Callososima* (Clem) *scintillana* Clem. P.E.S.P. 5, p. 141. Pack. guide 338  
*Callososima* Clem. P.E.S.P. 142 error.

Hab Ca (Clem)

? denw  
primary translucent  
or beautiful

*Soplocama formosana* Clem. P.E.S.P. 5, p. 141 (under *Callososima* *Soplocama*  
*Soplocama formosana* Pack. guide 338.  
*Soplocama* error Clem. P.E.S.P. 5, 142.

Junior

Hab Canada rare (Saunders)

Ins. pl. 53  
Fig. 32. coll. of M  
Saunders Can.

*Grapholita scutellana* see *Carpocapsa*.

yp+pg. working  
litos simple plain  
costa outside edge costa  
macula, apical

*Grapholita costamaculana* (Clem) ? *grapholita* Clem. P.E.S.P. 5, p. 142.  
*Grapholita* " G.H.K. 7, AES 2, 53.  
*Botanix* *disimulana* Walk. G.H.K. 7, AES 2, 53.

Ins. pl. 53

Fig. 20. coll. of M Saunders  
Can.

Hab Can (Saunders)

note " It is probable that *Soplocama* & *Callososima* may be identical  
or nearly so with the European Genus *Grapholita*! (Clem. P.E.S.P. 5, p. 142) \* *Callososima*

*Grapholita formosana* (Clem)

Hab Canada (Some mistake here see pl. 82 fig 22 which is also G.P.)

Ins. pl. 89  
Fig. 17. coll. of M Saunders  
Can.

fasciatus banded

*Grapholita fasciata* Clem ?

Hab Can (Saunders)

Ins. pl. 84  
Fig. 5. coll. of M Saunders  
Can.

? denw  
permutans very clearly

*Exartema permundana* see *Sericonis permundana* p. 144

galloxy. a girl  
Canada Saunders  
alternate

*Neodesca* *foersteri*  
*alternana* Walk.  
Hab Can. Saunders.

oxid shade. photos from  
cups, melle. photo to flow  
united in Saunders  
xpr+pos hidden

*Scopimila* *lactiflana* & *sternana* Walk.  
*Cryptolechia schlagennella*. Saunders coll.  
Hab Can

Ins. pl. 84  
Fig. 13 coll. of M Saunders  
Can.



*Leptessaria* Haw. "distinguished by their flat broad body & horizontally carried wings - their palpi are recurved & they feed in the larva state on umbelliferous & grass the pupae state in the stalks of these plants. West. 2. 407.

Gen *Typonomeutidae* Steph (*Pyralites* Fabr) fm Westwood 2. 110

Tm Larv #	{ <i>Leptessaria</i> Haw	{ <i>Ochlophassa</i> ' Curtis	{ <i>Pancalis</i> S	Steph
	{ <i>Volucra</i> Latr	{ <i>Capillaria</i> Haw	{ <i>Acophora</i>	Latr
Tm Mor #	{ <i>Unucampsis</i> Curt	{ <i>Nastrotoma</i> Curtis	{ <i>Alchmia</i>	Ochs
	{ <i>Recurvaria</i> Haw	{ <i>Durinea</i> Haw	{ <i>Callisto</i>	Steph
H. not Machina ree altho not in West	{ <i>Laverna</i> Curt	{ <i>Oxyphala</i> 1	{ <i>Harpagus</i>	Steph
	{ <i>Unucampsis</i> Steph	{ <i>Chimaphysaria</i>	{ <i>Tinea</i> 1	Haw
	{ <i>Lophonotus</i> Steph	{ <i>Chimaphysa</i>	{ <i>Leptygus</i>	Steph
		{ <i>Durinea</i>	{ <i>Bulbis</i>	Ochs
	{ <i>Aeria</i> Steph	{ <i>Aurinea</i> Haw	{ <i>Chrysocorys</i>	Curtis
	{ <i>Tinea</i> Donov	{ <i>Chimaphysa</i>		
	{ <i>Chelaria</i> Haw	{ <i>Semioscopis</i>	{ <i>Metalosetia</i>	Steph
	{ <i>Hypatinia</i> Hub	{ <i>Epigraphia</i>	{ <i>Damophila</i>	Curtis
	{ <i>Cleodora</i> Steph	{ <i>Encyrtia</i> (H. Clem. Tm)	{ <i>Propectaria</i>	Haw
	{ <i>Recurvaria</i> Haw	{ <i>Melanoleuca</i>	{ <i>Tinea</i>	Steph
	{ <i>Unucampsis</i> Hub	{ <i>Typonomeuta</i> (H. Tm)	{ <i>Alphelosetia</i>	Steph
	{ <i>Tinea</i> Hub	{ <i>Erminea</i> Haw	{ <i>Propectaria</i>	Hub
	{ <i>Macrochila</i> Steph	{ <i>Telea</i> Steph	{ <i>Batis</i>	Steph
	{ <i>Aplota</i> Curt	{ <i>Typonomeuta</i>	{ <i>Recurvaria</i>	Haw.
	{ <i>Aplota</i> Steph	{ <i>Ecdessa</i> Curtis		
	{ <i>Apsolephus</i> (Clem. Tm) Haw	{ <i>Semene</i> Steph		
	{ <i>Encosotoma</i> Steph	{ <i>Argyroselia</i>		
	{ <i>Pyralis</i> Fab.	{ <i>Argyroselia</i>		
	{ <i>Alabonia</i> Hub	{ <i>Argyromyza</i> (H. Tm)		
Clem. Tm #	{ <i>Encosotoma</i> St. Cal	{ <i>Lycocleia</i> (H. Tm. Clem)		
	{ <i>Acophora</i> Latr	{ <i>Heribea</i> Steph		
	{ <i>Uarocerus</i> Haw	{ <i>Tinea</i> Haw		
Clem. Tm #	{ <i>Udele</i> Latr	{ <i>Microsetia</i> Steph		
	{ <i>Capillaria</i> Haw	{ <i>Tinea</i> Haw		
	{ <i>Proctaria</i> Hub	{ <i>Glyphipteryx</i>		
	{ <i>Uurinea</i> Haw	{ <i>Acophora</i> St. Cal		

Note all marked # are classed under the *Tineidae* of Mor & Clem.  
but placed here under the *Typonomeutidae* of West.

Note although all the genera marked # are classed under the *Tineidae* of Clem & Mor, it has been thought advisable to keep them separate for the present, under the *Typonomeutidae* of Stephens. (see Westwood 2. 110.) (which family has been entirely omitted by Dr. Morris in his catalogue, & if it is thought proper they can afterwards be dropped amongst the *Tineidae* as no reliable list of American *Tineidae* has yet been published this arrangement is only for present use & for convenience of reference to names & in the index

"*Yponomeutidae* (adult palpi long slender max palpi rarely short slightly developed)." West 2-105

*Yponomeutidae* Stephens from Westwood's classification 2.110  
*depressaria* <sup>hercynica</sup> <sup>leg.</sup> *ontariensis* Bellman Can Ent vol 2 no 1. page 1 & 19.  
*Ontari depressaria*

Larva fed. on the flowers & also of the Parsnip July Fishville Lane. N.Y.  
 spinning a web in the umbel after eating the flower human into the hollow stem at the apex of the leaf making a round hole when they enter. L.P. pl 16 fig 11 N.Y.

Pupa found in the hollow stalk (the larvae having previously eaten a hole in the stem near a joint almost all the seed on the plants was destroyed by this larva. Fishville Lane N.Y.)  
 "pupa state lasts about a fortnight & the perfect insect begins to appear. Aug Can"  
 "Ins Hibernata may often be seen sitting round rooms even in the depth of winter." Bellman Can Ent vol 2 no 1. page 1 & 19.  
 "This larva is common in Canada on the wild parsnip. Mr Saunders found it also abundant at the other extremity of Canada below Quebec de Long on the St Lawrence

Food plant Parsnip. Cherry

Hub N.Y. (G.) Can (Saunders)  
 also allied to *Chorodactylus* of England.  
*Tangus* Westwood N.Y. in Can Ent 2.19. (gen. *Depressaria* from *Gelochidae* Group *Sinica* Bellman Can Ent vol 2 no 1. page 1 & 19.)

*Depressaria pubescens* Hb. Clem P.E.S.P. 2 p. 421.

Hub Illin. (Malek, 7/2 (Clem)

is this rightly named?

*Depressaria cinerea costellata* Clem. ? Clem P.E.S.P. 2 p. 421

*Depressaria clausella* Walk 942 to 25284

? Ins pl 69  
 fig 1. coll of M. Walk  
 Illin

Hub Va Clem

is this rightly named.

Pl. P.E.S.P. 2 p. 124 Packard Guide 189.

*Depressaria robinella* Pack guide p. 399. pl 8. fig 14.

Robina  
 Least

Larva thick bodied with a black head & is green with the cercal shield also green. It devours the leaves drawing them together by threads. It also eats the flower buds. abundant last week in June Pupa July 8th. Imago in about 2 weeks.  
 Food plant Locust

Ins pl 100  
 fig 5. fm Pack.

Ins pl 18  
 fig 8 Md

The male larvae at feeding about more or less

*Depressaria depressella*. L. live in a web in the umbels of Carrots. & destroy seeds.  
*Noellebor powder* Perhaps Linnaeus & foot dusted over the umbels would drive them away. Curtis 424

*Depressaria posticarella* bred upon parsnips 1725  
 & destroy flowers & seeds

is believed to attack Cranberries &  
 also very long remains apical joint. Sunborn Man

Ins pl 94  
 fig 28 coll of M.  
 Sunborn Man

*Anacamptis* (Gurtis) *robinella* Fitch see *Licharallia* p. 146.

*Anacamptis sarcitella* Harris 1893 Mor O. see *Trinea* p. 148

*Larvina* West 2. 487  
*Trinea* Curtis 1866  
 Packard } Larvae feed on woollen cloth & clothing of the materials of which they construct a moveable case in which the pupa is also formed.  
 Harris } see *Trinea* p. 148  
 Food woollen fabrics. Wool.

Hub May (Harris)

(144)

<sup>4</sup> *Adela canyminis* (Europe) Day flying species known under the name of Japan moths or long horns the former name alluding to their polished metallic wing. The latter to the great length of their antennae. They frequent mostly fly in troops like gnats over the bushes in the sunshine. The larva of an European sp. *Adela, de geerella* inhabits a flattened case formed of bits of leaves its pupa is very remarkable by having the greatly elongated antennae coiled up in a roll at the extremity of the abdomen. <sup>1</sup> West 2.407

*Tinea punctata* or *padella* experiment tried by M. Hübner of Munich in which the caterpillars were made to spin upon a paper model suspended from the ceiling of a room. - a pattern was formed by applying out to three portions which were not intended to be covered. M. Hübner succeeded in manufacturing an air balloon, one or two shawls & a complete dress with sleeves, & a handkerchief. - Intellectual observer. V. 338

Note. Ins. resembles somewhat in size & ornamentation. *Hypanomus multipunctella*

*Hypanomus padella* Europe Larvae have Spectral & ventral striae anal feet & are of a slate color with black dots they reside in large societies under a common web on various fruit trees & especially labiate trees feed upon the foliage of Apple &c. the insects are known as *Emmone* moths from the black spots on a white ground West 2.406 M. Hübner of Munich by compelling these insects to spin their webs on paper has been enabled to obtain a sufficient quantity of silk to manufacture into various articles West 2.406



*Anacamptis curculionella* see *Telechium* p. 156.

? larva web or stretched  
folium leaf  
||||| →

? larva *Machinaria lutescens* Clem?  
*Depressaria confertella* Walk. GNP Tr AES 2.84  
Habit Illin. Walk

Ins pt 69  
fig 4 coll of M  
Wash. Allen.

ETIOS. single  
OTOP. both.

*Encostoma* ? *Steph. Pascardella* Clem WESP. 2 p. 126  
Pack ands *encostoma*

"adyles hidden

*Adela*, Latr. prob *Redingsella* Clem Pack. guide 348 Ins pt 51.  
fig 5. M. d.

Habit Md (JG) "Adela Larva makes a flat case effects on the leaves.  
of various low plants such as wood anemone. *Veronica*" Pack guide 348  
Food plants prob. *Anemone*, *Veronica*

*Adela* Latr. "halpi's labia slender, recurved. antennae greatly elongated & thickened in ♀ eyes very  
large & approximating ♂ body slender. head fulvous wings metallic". Med 2. III. Sm.

*Adela* *Redingsella* Clem WESP 2. 426. desc. Habit Va.

? larva *Anesychia* (Steph) *Sparsicinctella* Clem WESP 2 p. 130.

Sparsus. speckles or scattered  
celum fringe or eyelash

"according to Mr Stainton the larvae of this genus seem  
Exclusively attached to plants of the borage family on which  
they feed."

Ins pt 76  
fig 20. coll of  
Ent Soc Phil

Habit Va.

prob Food plants Borage Fam

HYPERONIA  
to umbonina

*Hyponomeuta* (Zeller) *multipunctella* Clem In Acad nat Sc Phil 1860 p. 8 Mon p. 52

*Hyponomeuta* (Zeller) West

Ins pt 90  
fig 22. coll Crocker Kansas

? *Hyponomeuta endocaulis*. Walk. - L&R Tr AES 2. 84

*Erminea* (Haw) West.

Larva gregarious  
Pupa enclosed in cocoon (Pack)

Ins pt 57  
fig 15 coll of M Saunders  
Can

Habit Kansas (Crocker) Canada Saunders

"An allied European species deposits its eggs to the number of 20 or 30 in a mass in  
June & July, the caterpillars feed for a time & enclose themselves in a joint web  
where they pass the winter in spring, May & June, they feed on the foliage, still  
living in the web, the pupa is formed in the common web but in separate cocoons  
Höller p 227 where it is figured states that the Larvae of *Hyponomeuta fraxella* or  
small common moth injures apple trees enclosing some of the leaves with an  
unsightly web. & eat off one leaf after another within it."

*Hyponomeuta multipunctatella* Clem. Pack guide 348

*Argyromyges quercifolia* Vahl 1858, 557

Dors. brownish white fore wing pale golden yellow with a black dot on thorax  
 tips a white stripe on thorax side at base of triangular silvery  
 white spots along the outer 4-5 larger upon the inner margin 0.80.  
 Lar. White with a cinnamon brown stripe along its middle - tips of jaws  
 brown. Sparsely haired. ~~resembles~~ like a *Rapinotus larva*  
 the segments of the thorax being much broader than the rest  
 3 anterior pairs of legs. 3 pairs of very small prolegs on 3, 4, 5  
 narrowed abdominal rings

*Yponomeutidae.**Argyromyges Pseudacaciaella* F&S 836

of Curtis 3 live between stem of leaf, fore wings frequently  
 brilliant oak leaf color, but marked with obscure clouded  
 narrow "white" lines, body often at rest near wings narrow  
 fringed on both sides with fine long hairs, legs move  
 from a tuft of dense erect vibrating bristles on apex  
 slender locust leaf miner (freshwood 12, p. 163) 2. very short of  
 elongate, subcylindrical, and very nearly as thick as widest  
 with narrow very subcylindrical, somewhat anterior  
 with metallic marks.

3 pairs in white, rather like spots on Locust.

3 slender, not flattened, very closely constricted at midrib &  
 resembling a string of beads.

0.24 3 fore wings golden yellow with 4 white bands on outer side  
 the fore wing broad oblong 4-5 a large black dot on thorax tip  
 colored with white

*Argyromyges Myricaella* F&S 838

Myrica leaf miner  
 3 similar in size & shape but the entire inner half of fore wing  
 is black 3.

*Argyromyges Albicella* F&S 838

Albicella leaf miner  
 3 resembles *pseudacaciaella* but pale color the fore wings being  
 golden-gray with 5 white spots above their outer edge side. The black  
 dot reduced to a short black stripe

*Argyromyges Betulaella* F&S 838

found July 4 Aug.  
 3 body hind wings & all under side like head silvery white, fore  
 0.26. wings of a deep orange-gold, crossed by 4 equidistant silvery  
 broad bands



*Argyromyges quercifolia* Fitch to NY S Ag Soc. vol 13 p 527

271.

(Oak leaf miner)

Larva forms a whitish bladder like spot half an inch long showing before both sides of the leaves. Speckles upon the green not very large. Larva moves white. fore wings pale golden yellow with a black dot on their tips. a white stripe on their under side at base with 6 triangular dusky white spots along the middle & two larger ones upon the inner margin. Pupae 0.30.

Food plant White Oak

Feb NY (Fitch)

apropos silver  
new to each organ?  
quercus oak albella  
(juv. a fly.)

*Argyromyges quercifolia* Fitch 1858. 538. Mar 51. Fitch to NY S Ag Soc. vol 13 p 527. 1858.  
White oak leaf miner Larva forms a white bladder like spot on the under side of leaf. broad oval in form & half to 1/2 inch in length. Larva. fore wings distinct half brown white, posterior half pale golden yellow. Fitch 1858. 538.

Food plant White Oak

*Argyromyges (Utricularia) & Utricularia* Fitch 1858. 538.

mentioned by Fitch under the head of Locust. (prob food)  
but he likewise says. "I do not know the kind of leaves in which they are reared"

Fitch to NY S Ag Soc 1858. 538

*Argyromyges pseudocacilliella* Fitch 1858. Mar 51. see Lithacollis p. 146.

Lyonet prop name  
speculum a mirror

*Lyonetia (Utricularia) speculata* Clem 1<sup>st</sup> S P. 1. p. 124

"The Larva of this genus is represented to make long tortuous galleries or tracks on leaves & to quit the leaf when full fed." Clem

Bov. greatly. much  
Fitch's a maiden or bride  
! is this not Larva?

*Bulalis flavipunctella* Clem Stainton 1858 p. 2. 122. (is this not *Utricularia* frontella.)

Perhaps *Bulalis basilaris* Zeller vol X. p. 230. is identical with this (Stainton)  
(Lyonetia entomologica.)

matula garden of  
morning

*Bulalis matubilla* Clem 1858 p. 2 p. 132 Stainton

perhaps identical with *B. impressella* Zeller *Lyonetia entomologica* vol X p. 241. fin a mirror (St)

Xproos gold  
xopos humit.  
Corythaeus. red. or red sea.

*Chrysocerys. erythrella* Clem Stainton 1858 p. 2. 132.

Lyonet. prop name

*Lyonetia saccatella*. Pack Guide 355 pl 8. fig 18

which it draws about with it.

saccul. a sack or bag.

Larva makes a case instead of living in a mine in leaves of Apple this case is made of the skin of the leaf & is of a flattened oval shape open at each end & roomy enough for the larva to turn around in it becomes fully grown by the last of Aug & in Oct the cocoons have been found attached to the bark of the tree where they may also be seen through the winter & in the Spring, Sautorn in Pack guide 355

Feb Mar.

See pl 94  
In pl 100  
fig 6. Pl. Pack. fig 3 fm  
coll of Mr Sautorn  
Max

## Fam. Lithacollitidae of Mor Cat. P 53.

*Lithacollitis* Zeller  
*Tschirria* Zeller  
*Phyllocnistis* Zeller  
*Leucanthra* Clem  
*Bucculatrix* Zeller  
*Antispila* H. Sch.  
*Aspidisca* Clem.

In Morris Catalogue the above named genera  
 are separated from the Tineidae (Mor.) & placed  
 in a distinct family, Lithacollitidae

*Lithacollitis* *Tschella* Clem. Pack. Quicks 353  
*Agryrocyges* (Stephens) *quercifolia* Fitch 1855 827 Mor 51.  
 Oak leaf miner Fitch

Lar form a white blister like spot 0.50 in length  
 showing both sides of the leaf & mining in it.  
 the miney white with pale reddish saffron fine wings  
 slightly tinged with a brassy hue. Fitch.

Food plant, Oak White

Fam Lithocolletidae Mor p 53.

"Microlepidopterous Larvae notes on a few species the imagoes of which are probably undescribed" with food plants, & the months in which they should be sought for by the collector with directions how to rear them in confinement. Clem. PESP. 1 p. 76.

*Lithocolletis*. "Larvae mine the leaves of trees shrubs or low plants separating either the upper or lower cuticle & feeding on the inner substance of the leaf. the larva never quits the mine & changes in it to a pupa. Some species make no cocoon others only a slight one & others make one of excrement woven together with silk many of the species of the fall brood remain in the pupal state all winter & appear as imagoes in the spring & some of the imagoes that appear late in the autumn seem to hibernate during the winter in the same state. The spring brood of Larvae produce imagoes in the summer" &c &c. Clem PESP. 1, 81  
Mor. p. 53.

*Arctos, a stone*  
*2000 pgs. one who*  
*glues or pasters*

*Lithocolletis*

Larva mines in the leaf of willow in October (Sanborn)  
Insect from the collection of Mr Sanborn Man.

In p 94  
fig 4 coll of  
Mr Sanborn  
Man

Hab. Man.

note. This insect may prove to be the same as *L. salicijoliella* (Clem) mentioned below.

*base, base on foot*  
*strigata or, narrow or*  
*base.*

*Lithocolletis basistrigella* Clem Stanton PESP. 2 p. 138 also to European *L. Saberyella* (S1)

*salix, salix of the willow*  
*potum leaf*  
*Lithocolletis salicijoliella* Clem PESP. 1. p. 81. Pack guide 353

Lar late June or early July mines in leaf of yellow willow  
The mine is on the under side of the leaf usually near the base  
& along the edge. (Clem)

Food Plant. Yellow willow

*juglans walnuts*  
*Lithocolletis Juglandiella* Clem PESP. 1 p. 81. Pack. guide 353.

Walnut

more slender

7. p. 14

22

7. Mid June  
Locust

## Fam. Lithocolletidae of Mor Cat. p 53.

*Lithocolletis* Zeller*Ischnria* Zeller*Phyllocnistis* Zeller*Leucanthria* Clem*Osculatix* Zeller*Antispila* H. Sch.*Aufidiscia* Clem.

In Morris Catalogue the above named genera are separated from the Tineidae (Mor) & placed in a distinct family, Lithocolletidae

*Lithocolletis geminatella* Pack guide 353 pl 8. fig 15.geminatus  
double

Larvae mine in leaves of Pear & Apple trees from Aug middle to first week in Oct. usually the larva draws two leaves together or folds one up & as it eats its way along the surface of the leaf leaves its excrement, filling up the space behind this making blotches & otherwise disfiguring the leaves; pupa forms in the mine. Ins appeared first Aug 19<sup>th</sup> Pack. (Apple & Pear Food plant)

Ins pl 100  
fig 9 fm Pack.curvus acutus  
twice line*Lithocolletis curvilineatella* Pack guide 354 pl 8. fig 16.Ins pl 100  
fig 2 fm Pack

cocoon long slender a little blunt at each end & white with slight longitudinal ridges. it may be found attached to the bark on the branches of the apple tree in May & also in autumn. Winter Pack. Food plant Apple

indispensable  
making a nest*Lithocolletis indispensablella* Pack guide p. 354 pl 8 fig 19

so named from the singular way in which the cocoon is suspended in a loop like a hanging nest by silken cords the larva feeds on Pear.

Food plant Pear.

Ins pl 100  
fig 3 fm Pack.

"*Angronomyia autumnella* (European) the cocoon is also ingeniously suspended by threads from each end like a hammock" West 2.408



Fam Lithocolletidae Mon p. 53.

"Microlepidopterous Larvae notes on a few species the imagoes of which are probably undescribed" with food plants, & the months in which they should be sought for by the collector with directions how to rear them in confinement. Clem. PESP. 1 p. 75.

*Lithocolletis*. "Larvae mine the leaves of trees shrubs or low plants separating either the upper or lower outside feeding on the inner substance of the leaf. the larva never quits the mine & changes in it to a pupa. Some species make no cocoon others, only a slight one & others make one of grains of excrement woven together with silk many of the species of the fall brood remain in the pupal state all winter & appear as imagoes in the spring & some of the imagoes that appear late in the autumn seem to hibernates during the winter in the imago state. The spring brood of Larvae produce imagoes in the summer" & G. Clem PESP. 1, 81. Mon. p. 53.

*Arctos. aetone*  
2000, 1875. one who  
glues or fastens

Lithocolletis

Larva mines in the leaf of *Salix* in October (Samborn)  
Insect from the collection of Mr Samborn Mass.

Insp. p. 94  
fig 4 coll. 4  
in Samborn  
Mass

Hab. Mass.

note. This insect may prove to be the same as *L. salicifoliella* (Clem) mentioned below.

*Lithocolletis basistrigella* Clem Stanton PESP. 2 p. 130 allied to European *L. salicifoliella* (S)

larva. base of foot  
striga a narrow or  
leaf.

*Lithocolletis salicifoliella* Clem PESP. 1. p. 81. Pack guide 353

Lar late June or early July mines in leaf of yellow willow  
The mine is on the under side of the leaf usually near the base  
& along the edge. (Clem)

Food Plant. Yellow Willow

*Lithocolletis Juglandicella* Clem PESP. 1 p. 81. Pack. guide 353.

Larva early June & latter part of July to middle of  
August make an elongated rather wide tract  
on the upper surface of the leaves of Black Walnut  
mines } Black Walnut  
along without folding the leaf. (Clem)

lla Clem. Stanton PESP. 2. 130.

onella Clem Stanton PESP. 2 130

lla Clem P. Acad Nat Sc Phil 1859. 319.

lacocella Fitch 5th Rep 1858 h 536, Mar. 51.

Fitch

Larva mines in leaf of Locust. I. form bluish like spots that larvae, much more slender  
in form than *Anacampsis robiniae*. Pupa a portion of them probably 5. Food plant Locust  
rears under all winter long in their burrows in the dead foliage of dead plant Locust  
Hab W. Pa. } Larva } 1st. pale cream red in the autumn hibernates in crevices under the loose  
scale of bark. G. Fitch

? deno

*Paraclepa* (Clem) *robinicella* Clem P. Acad Nat Sc. Phil 1860 p 209. PESP. 2. p. 44  
?? *Anacampsis robinicella* Fitch 5th Rep 1858 h 536, Mar 51, see next

Larva mines the leaf of the Locust making a blotch  
mine on the upper surface of the leaf with a number of  
lateral galleries running out from it on each side (Clem)

Insp. p. 22

fig 7, 7th June  
Locust

Hab Ma. (D. C.) Pa (Clem.)

Locusts.

Phyllocnistis? Zeller?

70/23. Thalh

*Ischnura (Zeller) quercitella* Clem. P&S P. 2 p. 13. desc.quercitella  
a group of oak

Larva makes a white blotch mine on the upper surface of the leaves of Oak. Sep & Oct. about the middle of the mine is a spot whiter than any other part - circular. More opaque on this spot when full fed the larva spins a circular whitish cocoon.

Food plant Oak

*Ischnura citrinipunctella* Clem. Stainton P&S P. 2 130 intermediate between European *Ischnura* & *Marginea* St.

*Bucculatrix thuicella* Pack

Cocoon on oak - not related but formed in company. found on Cedar (not No.)

Pack 1<sup>st</sup> An. rept. on *ischnura* insects.  
Mar. 24

*Bucculatrix panisfoliella* Clem (See Riley)  
Apple *Bucculatrix*.

Lar feeds externally on leaf. Laid by a web when placed in Oct. in companies.

Cocoons ribbed }  
conspicuously }  
on bark. Ins. appears the following season  
the cocoons remaining on the bark all winter

L. 10 pale & 6. true leg nearly half an inch in length dark green smooth the joints so swollen as to look like a series of beads head small.

Remedy: Succeeded with Kerosene oil used with carb. or alkali. J. pl. C. XVII. 197.

2. Pack 1<sup>st</sup> Rep. Mar. 24

*Bucculatrix panisfoliella* Clem. P. East 1. 57.

Lar feeds on leaves of Apple tree. Laid externally.  
Cocoon long white. Remedy: Riley he found at any time the leaves are fallen on branches of apple tree cocoons elongated only white & ribbed. J. pl. C. XVII. 197.

Hab main

*Bucculatrix thuicella* Pack. 1<sup>st</sup> Mar. Rep. 95.

Cedar mined

I saw & cocoons found on a cedar tree in abundance but larvae unknown.

Hab main

→ parasite a chalcid?  
allied to *ischnura*? Cedar

forwardly, nearly white crossed in middle by alternating brown & white stripes crossing from front edge of wing on the end of wing see the middle of the outer edge is a conspicuous black spot like the eye in a peacock's feather

*Lithocollis* ? Clem P&S 2. 105. vol 18  
*Unicampoides robinella* Fitch 5th Rep NY. Aug. Soc 1858. p. 534. Mar 31

are backwardly  
 kept 15, winding  
 or peeling.

Larvae form blister like spots peeling up - the parenchyma  
 between the two outer skins. "mine on the under surface  
 of tent like" Fitch.

note "if Dr Fitch has been led into an error it is a new species & the Greek  
 name must be changed" I do not think there can be 2 species of *Lithocollis*  
 that mine the leaf of the Locust & the mine of *Paractopa robinella*  
 just mentioned are invariably long & situated on the upper surface of  
 the leaf" (Clem). I is probably *Paractopa robinella* (Clem)

parasite *Microgaster Robinsoni*  
 Locust leaf mine parasite. Fitch 5th Rep NY. Aug. Soc 1858. p. 536

Fischer prop. name *Lischeria* (Zeller) *Salidagomyia* I. Clem Pr Acad. Nat. Sc Phil 1859. 326. Mar 53  
 Solenaga golden red (green) + 1st 1/2 Clem  
 folium leaf

viticinios that comes  
 of a vine *Phyllocnistis* (Zeller) *viticinella* Clem Pr Acad. Nat. Sc Phil 1859. 327. Mar 54

*Irivindross* *Phyllocnistis* *Liriodendronella*. Clem P&S 2. 13. (describes)  
 ? dens  
 "Larva mines the small terminal leaves of the branches of  
 Tulip tree making a broad linear line on the under  
 surface of the leaf leaving a brownish frass line. this  
 mine is much contorted & very long. (Clem) Soil Plant Tulip tree  
 Hab Pa (Clem) so as often if not always to "take up"  
 the entire under surface of the leaf winding over it so as to detach nearly  
 all the under epidermis."

? dens  
*amphicarpaea*.  
 leaf ground nut.  
*Phyllocnistis vitiginella* Clem Stanton. P&S 2. 130. closely allied to *P. saffordii* & *saligna* - larvae  
*Leucanthria* Clem *amphicarpaea* *fulvella* Clem Pr Acad. Nat. Sc Phil 1859. 328  
 Hab Pa. Mar 54

corona a crown  
*Bucculatrix* ? (Zeller) *coronella* Clem Pr Acad. Nat. Sc. Phil 1860. 120. Mar 54  
 Hab Pa

? buccula  
 nut which comes next  
 to chest ?  
 the side the bark  
*Bucculatrix* (Zeller) *trifasciella* Clem Pr Acad. Nat. Sc Phil 1860 p. 211. Clem P&S 5. 147  
 as. *Nepticula saginella* <sup>var. f.</sup> Larva described Clem P&S 1. 85. (Clem P&S 5. 146. Des. describes)

Cocoon elongated ribbed externally dk grey on leaf of Chestnut.  
 Insect latter part of July (Pa)  
 Larva mines leaves of Oak early Oct & Chestnut early in Aug (Pa)  
 makes a transparent moderately broad serpentine track gradually  
 increasing in breadth from the beginning to the end where it is very  
 slightly enlarged with a central frass line. in Chestnut leaves the  
 mine is often made along the edge of one of the coarse pointed teeth  
 running up to the point whence the enlarged portion is turned  
 inward. Clem P&S 1 p. 85

Hab Pa. (Clem) mines foliage of Chestnut. { Clem P&S 5. 146.  
 See also *Nepticula saginella* which includes sp. p. 152. { if not oak, which is  
 done by *Nepticula saginella* p. 152.

anti against  
 othos + rock or cliff

*Antispila* Rob





arise opposite against  
 outside of a rock.  
 Myrica. Lufelo. Same genus  
 (Clem leaf)

*Antispila* (H. Sch.) *myrsinifolia* & *conspicua* Clem. Trans. Acad. Sci. Phila. 1860. 11. Nov. 2.  
 Larvae white or whitish with black dorsal & ventral spots.  
 The pupae of the *Antispila* require a damp  
 situation. (Clem. PEST. 1. p. 82.)

Hab Pa (Clem)

*Aspidisca phalaris*  
 ? folds, shields

*Aspidisca* (H. Sch.) Larvae make a small blotch mine between the cuticles of the leaves  
 when they have arrived at maturity weave a cocoon between the cuticles & cutting  
 out of them a small oval disk thus leaving a hole in the mine place of the  
 side & shape of the cocoon. Larvae of a reddish brown. & the disk is away, fixed  
 by a button of silk to some object in the neighborhood of the food plant. (Clem PEST. 1. p. 82.)

*Aspidisca repulgent*  
 ? fore. to bear

*Aspidisca splendens* Clem. P. Acad. Nat. Sc. Phila. 1860. 12. Nov. 5.

Hab Pa (Clem)

*Astrya* Iron wood  
 ? plant leaf

*Aspidisca astryaefolia* Clem. PEST. 1. p. 82.

Larvae on leaves of Iron wood late Sep & early Oct.

Hab Pa (Clem)

Food plant. Iron wood

*Salix salicis*  
 willow

*Aspidisca salicella* Clem. PEST. 1. p. 82.

Larva after cutting out its disk lets itself down by a thread  
 to the surface of the ground. from beginning to  
 middle July (Bth). Larva may be taken on the leaves  
 of yellow willow the mine is very small & the excreta  
 portion with which the disk is formed takes up the  
 greater portion of it (Clem)

Food plant  
 Yellow willow

Pyral Mr.	<i>Alchroia</i> Hub	<i>Chaetochilus</i> Steph
	<i>Galleria</i> West	<i>Cerostoma</i> Curtis
	<i>Galleria</i> Fab.	<i>Cerostoma</i> Latr
	<i>Glyptia</i> Latr	<i>Glyptophus</i> Fab
Pyral	<i>Crambus</i> Fab	<i>Euplocamus</i> Latr
	<i>Senta</i> Steph	<i>Phycis</i> Och
	<i>Melana</i> Curtis	<i>Aenolopia</i> Curtis
	<i>Eudorea</i> Curtis	<i>Simia</i> West 149
Pyral	<i>Scoparia</i> Haw	( <i>Simia</i> here of Latr)
	<i>Phyceta</i> Curtis 146	<i>Lepidocera</i> Steph
	<i>Phycis</i> Fab.	<i>Glyptophus</i> Haw
	<i>Homacossoma</i> Curtis	<i>Incurvaria</i> Haw 150
Pyral	<i>Phycis</i> Haw	<i>Simia</i> Hub
	<i>Phonapteryx</i> Steph	<i>Amaurosetia</i> Steph
	<i>Nonophila</i> Hub	<i>Simia</i> Haw
	<i>Scopula</i> Curtis	<i>Dampronia</i> Steph
Pyral	<i>Onocera</i> Stephens	<i>Euccephala</i> Curtis
	<i>Crambus</i> Fab	<i>Dampronia</i> Steph
	<i>Araxes</i> — Steph	<i>Eusilapteryx</i> Steph
	<i>Palparia</i> Haw	<i>Acenotopus</i> Curtis
Pyral	<i>Crambus</i> Fab 147	<i>Acenitia</i> Steph
	<i>Palparia</i> Haw	<i>Lauella</i> —
	<i>Chilo</i> — Lueck	<i>Gracilaria</i> Haw
	<i>Palparia</i> Haw	<i>Alicata</i> Fab
Pyral	<i>Theristes</i> Hub	<i>Gracilaria</i> Zeller
	<i>Plutella</i> Schön	( <i>not in Westwood but here</i> )
	<i>Hyposlopha</i> Hub	
	<i>Hyposlophus</i> Fab	
Pyral	<i>Harpyleryx</i> Hub	
	<i>Plutella</i> Schön	

<i>Tetralopha</i> Zeller
<i>Aphromia</i> Hub
<i>Myelois</i> Hub
<i>Pemphelia</i> Hub
<i>Anacamptis</i> Curtis
<i>Cerostoma</i> Latr
<i>Anagryomys</i> Steph 150
<i>Simia</i> Fab
<i>Acysthia</i> Clem 151
<i>Amythra</i> Clem
<i>Anaphora</i> Clem
<i>Incurvaria</i> Haw
<i>Brachyactinia</i> Schrank
<i>Plutella</i> Schrank
<i>Thousometa</i> Zeller
<i>Eudorea</i> Clem
<i>Chaetochilus</i> Steph <sup>see microleptus</sup>
<i>Anagryomys</i> Hub
<i>Gracilaria</i> Zeller
<i>Ornix</i> Weischoke 151
<i>Cosmopteryx</i> Hub
<i>Bedellia</i> Stainton
<i>Cosmotes</i> Clem
<i>Colophora</i> Zeller
<i>Diachonisia</i> Clem

## Clemens PESP 1 p 75

<i>Colophora</i> 152
<i>Nepticula</i> 153
<i>Ornix</i>
<i>Acrostega</i> 154

## Clem PESP 1. 147.

<i>Bedellia</i>
<i>Nepticula</i>

## Clem PESP 2 p 4.

<i>Strobilia</i> 155
<i>Brenthia</i>
<i>Colophora</i>
<i>Marimara</i>
<i>Glyptopteryx</i>
<i>Gracilaria</i>
<i>Gelochia</i> 157
<i>Discheria</i> 157

## Clem PESP 2. 147.

<i>Simia</i>
<i>Gelochia</i>
<i>Colococera</i> 158
<i>Hyposlophus</i>

<i>Thousometa</i>
<i>Cerostoma</i>
<i>Brachyactinia</i>
<i>Pignitia</i>
<i>Simia</i>
<i>Grav. Homoschia</i>
<i>Chaulellis</i>

Observations on American  
Simia Stainton PESP 2  
p 147.

## Clem PESP 2 p 147.

<i>Simia</i> of Stainton
<i>Simia</i>
<i>Ornix</i>
<i>Incurvaria</i>
<i>Gelochia</i>

<i>Crabulus</i> / <i>Laverna</i>
<i>Malitia</i> / <i>Chysalobus</i>
<i>Gracilaria</i> / <i>Gelochia</i>

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

*Thousometa*

As no reliable list or classification of the  
Simidae (or Simina) of the U.S. has been  
published. No attempt at the classification  
or arrangement has been attempted in this list  
but the different genera are — put down  
as they stand in Westwood's Classification.

Morris' Catalogue, & the contents of Mr Clemens  
in the Proceedings of the Entomological Soc'y  
of Philadelphia. & the list is made merely  
for the purpose of collecting them all together  
& to facilitate the references as to name  
food or habits in the index — at the beginning  
of the work.

add also.

*Anorthosia* Stainton PESP 2. 130 p. 160.

*Callania* ?  
St. PESP 2. 130.

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

*Euplocamus*

## Clem PESP 3, 505

North Am Micro  
Leptothorax

<i>Brenthia</i>
<i>Gracilaria</i>
<i>Simia</i>
<i>Colophora</i>
<i>Gelochia</i>

Clem Simina  
PESP 5. 145.

<i>Balachobus</i>
<i>Gracilaria</i>
<i>Nepticula</i>
<i>Incurvaria</i>

add also

note the Leptothoracidae  
of Westwood are  
placed just before the  
Simina & omitted here  
The Thousometae  
of Westwood are  
marked *Thousometa*  
be found p. 144.5.  
The *Thousometa*  
are mentioned before  
& those marked \*  
are put in this list  
in the same order  
as they now stand.

## Simidae

<i>Solenobia</i>
<i>Simia</i>
<i>Adela</i> (Thousometa West)
<i>Thousometa</i> (Thousometa West)
<i>Dipressaria</i> (Thousometa West)
<i>Gelochia</i>
<i>Colophora</i>
<i>Balachobus</i>
<i>Elachista</i>
<i>Leptothorax</i> (Leptothoracidae West)
<i>Liparotia</i> (Thousometa West)
<i>Nepticula</i>

Arranged. Each guide

continued





Pupal Mo.	<i>Alabroca</i> Hub	<i>Chalcidius</i> Steph
	<i>Galleria</i> West	<i>Cerostoma</i> Cur.
	<i>Galleria</i> Fab.	<i>Cerostoma</i> Latr
		<i>Chalcidius</i> Fab.
Pupal	<i>Phyllocolpa</i> Latr	<i>Euplocamus</i> Latr
	<i>Crambus</i> Fab.	<i>Phycis</i> Echr
	<i>Senta</i> Steph	<i>Aerolopia</i> Curtis
	<i>Melana</i> Curtis	
Pupal	<i>Eudorea</i> Curtis	<i>Tinea</i> West 149
	<i>Scoparia</i> Haw	( <i>pur</i> <i>Tinea</i> here of Latr)
	<i>Phyceta</i> Curtis 146	<i>Lepidocera</i> Steph.
	<i>Phycis</i> Fab.	<i>Phidophorus</i> Haw
Pupal	<i>Homaeosoma</i> Curtis	<i>Inousaria</i> Haw 150
	<i>Phycis</i> Haw	<i>Tinea</i> Hüb
	<i>Protophylla</i> Steph	<i>Amuroctia</i> Steph
	<i>Monophylla</i> Hüb	<i>Tinea</i> Haw
Pupal	<i>Scopula</i> Curtis	<i>Lampronia</i> Steph
	<i>Onocera</i> Steph	<i>Encephala</i> Curtis
	<i>Crambus</i> Fab.	<i>Lampronia</i> Steph
	<i>Araxes</i> — Steph	<i>Euphyllapterx</i> Steph
Pupal	<i>Palparia</i> Haw	<i>Acetivorus</i> Curtis
	<i>Crambus</i> Fab 147	<i>Acetivorus</i> Steph
	<i>Palparia</i> Haw	<i>Lawley</i>
	<i>Chilo</i> — Zuck	<i>Gracilaria</i> Haw
Pupal	<i>Palparia</i> Haw	<i>Alucita</i> Fab
	<i>Theristes</i> Hub	<i>Gracilaria</i> Zeller
	<i>Plutella</i> Schöen	not in westward but here
	<i>Hypoclopha</i> Hüb	
Pupal	<i>Hypoclopha</i> Fab	
	<i>Hypoclopha</i> Hub	
	<i>Plutella</i> Schöen	

* <i>Tetral</i>	* <i>Alphos</i>	* <i>Myel</i>	* <i>Pomp</i>	* <i>AmAnac</i>	* <i>Ceros</i>	* <i>ThonArg</i>	* <i>Imec</i>	* <i>Lyce</i>	* <i>Any</i>	* <i>Ana</i>	* <i>Inca</i>	* <i>Bra</i>	* <i>Plu</i>	* <i>ThonTha</i>	* <i>Eua</i>	* <i>Chalcidius</i>	* <i>Argyrosticta</i> Hub	* <i>Gracilaria</i> Zeller	* <i>Ornix</i> Meischnke 151	* <i>Cosmophlyx</i> Hüb	* <i>Bodellia</i> Stainton	* <i>Cosmotes</i> Clem	* <i>Colophora</i> Zeller	* <i>Diachoniscus</i> Clem	* <i>Clem</i> P.E.S.P. 2 p. 4.	* <i>Tineina</i>	* <i>Gracilaria</i> 158

No no reli

Tanaeidae (

published

or arrangement has

been the different

as they

Morriss

is the

of Phil.

for the

food or

of the

*C. causticellus* L. 0 50. head neck & 2d segment black the neck having a slender whitish line on the middle

for wings, the brown on the inner side & outer half white often layed with tawny yellowish sprinkled with minute black atoms when at rest this white forming a broad stripe along each side under side of wings, only fringe blackish at tips, the subdull yellow on each side of this, in other respects resembles

low line

*Tineidae*

*Chalcidius* *Amuroctia* 7233.

*Spicile* spotted palmer worm.

*Spicile* not much? low raised web with near branches in dense.

glory ash gray fore wings paler on inner basal portion black at tips & outer margin towards tips broad blackish streak through the middle, whitish scales forming a V with 3 angles low at tip of wing the band ending with a transverse transverse pale yellow spot & smaller spot beyond the transverse spot & another forward, outer edge hair white body & legs silver white thorax longish unicolor not very long as antennae.

quite small, body, white white spread over an ovipositor half the length of abdomen.

*Chalcidius* *Amuroctia* 7234.

*Spicile* spotted palmer worm.

*Spicile* not much? but occurs in woods in California

both wings relatively broader & tips of anterior wings more obtuse & cut off obliquely so that the apex forms an obtuse angle ash gray outer edge, fore wings with hair patches & black above forming irregular transverse wavy lines, on the apex edge a row of black dots placed at intervals between end of above dots obscure yellowish, apex ash gray along each side a row of glossy whitish spots.

marked then may be found P. 144.5.

these marked are mentioned before

& those marked are put in this list

in the same order as they now stand.

continued

Tanaeidae

Solenobia

Tinea

Adela (Thomomus West)

Hypomnesta (Thomomus)

Hypomnesta (Thomomus)

Glechia

Colophora

Palachobra

Elachista

Elachista

Lipocista (Y. monomus)

Lipocista

Arranged. Pack guide



Linnæus first set the example of having the specific names of the Tortricids said in ana. & the Sineids in Ella. & at the present day the rule is generally followed by Entomologists who have also given the same termination to the names of the smaller species of Pyralids such as *Pempelia Crumbie* &c.  
 Pack guide 346

281

*Tricidae* Leach. distinguished by their elongated wing slender body & the long or very long forewings to the tips & the development of the palpi. Their variety in form structure offer the most tangible grounds for separating the greater number of genera. (Stanslow in Pack Guide 342.) (Max palpi greatly developed, labial palpi rarely recurved. mod. 2/1899)

many of the larvae are leaf miners & their burrows are detected by the minute broken withered edges on the surface of the leaves & their frass or excrement thrown out at one end. Some construct portable cases others burrow in the stems of grass &c. &c. Pack guide 342  
 for raising the larvae also Pack guide 342.

5/10s. height  
 1/10s. erect.

*Ypsilophus* "The species described by Dr Fitch under the generic name of *Chatochilus* belong to this genus" Clem. P&S P. 2 p. 123.  
 I have been unable to recognize any of the following in his descriptions  
 1) *Ypsilophus* Clem. P&S Ent Soc Phil 1863 p. 123.

protrudes a pinkish  
 discus a narrow plate. pink.

*Ypsilophus* (Haw. Zell) *punctidiscellus* Clem. P&S P. 2 p. 123.

pauci  
 guttae a group.

*Ypsilophus* *pauciguttatus* Clem. P&S P. 2 p. 123.

uncus one alone  
 American form

*Ypsilophus* *unifurcatus* Clem. P&S P. 2 p. 123.

flavus golden yellow  
 interior of one egg

*Ypsilophus* *flavivittatus* Clem. P&S P. 2 p. 129 (6a)

X 1/10s. want on  
 a distance

*Ypsilophus* Clem. P&S P. 2 p. 123.

X 1/10s. top.

*Chatochilus* (Steph.) *Costibonellatus* Fitch & NY Sag. Rep. 1855 vol 15 p. 463, Mar 52.

contubernium  
 living together in  
 one tent

Comrade Palmer worm

contubernium  
 or companion

Hab NY (Fitch)

Food plants Apple & Forest trees

note genus *Chatochilus* no longer recognized Mar note 52

*Ypsilophus*. Clem. P&S P. 2 p. 123

(Fitch NY Sag. Rep. 1855 vol 15 p. 452

*Chatochilus* *prometellus*.

I pale yellowish green with dusky or blackish stripe along each side of back  
 edges on upper side with a narrower whitish stripe the dusky line on

" 52. } 1/10 p. 101 p. 104.

mid back 0.50

L 3 p. 101  
 fig 3. from Fitch.

Ins. cast grey, forewings sprinkled with black dots 1/2 black dots  
 dots near middle & 6 or 7 around their hind edge. 0.63

moving  
 then threatens &  
 threat. June NY

upa formed in small silken cocoons. July remain as pupae about 10 days.

→ Larva destroyed by a parasite grub. Fitch & NY Sag. Rep. 1855 vol 15 p. 463, Mar 52  
 Food Plants Apple Cherry Oak Plum  
 Hab NY (Fitch) Man. (Haw.)  
 & Forest trees

(148)

trimaacula  
 3 spots

*Ypsilophus* Clem. P&S P. 2 p. 123

*Chatochilus* *trimaaculatus* Fitch & NY Sag. Rep. 1855 vol 15 p. 465, Mar 52

*Trifolia* spotted Palmer worm Fitch

Hab NY (Fitch)

Food plants Apple & Forest trees

*Ypsilophus* Clem. P&S P. 2 p. 123.

*Chatochilus* *ventralis* Fitch & NY Sag. Rep. 1855 vol 15 p. 466 Mar 52

Belly spotted Palmer worm Fitch

Hab NY (Fitch)

Food Plants prob Apple & Forest trees  
 (148)

venter belly

282-288

*Chalcididae*

*C. halophilus madidellus*

L resembles palm-worm in form & size but is rather narrower & more slender & the stripes along the back on each side are tawny yellow & there is a pale stripe along the lower as well as the upper side of each stripe 0.50

Ins. differs from *pomatilis* by the fore wings having no black dots 0.65.

*Linia monogramella*. Europa. fm Ratz.

destroyed by *Euclyptus atricollis* Europa  
leaving skins hard & pierced with holes.

See Hyem p. 10 fig 34

*Linia* on clothes & Carpet moths. To Ent 1.64

Remedy. Tobacco & camphor. put up with the articles in linen bags. (Cure very tedious to expose the articles previously to the hot sun for some days in order to kill any eggs or young larvae already deposited in the clothes)

Moths in spring examine - & gum camphor in coarse powder sprinkled among clothing - Ground black pepper upon the floor for carpets. Am Ag. 1860.

*Linia* or Clothes moths

Remedy Alumina is recommended & for f. then freely. or dissolved in water & the liquid applied. (J. S. Lee m. m. s. 90)

*Linia* ?  
Gooseberry Moth

Proc Ent 1. 23.

Fitch 137

Supposed by J. Fitch to be a *Linia*.  
a slender greenish worm about 1/2 inch in length with a dark colored nose, a dark band across the top of its neck & three forward hair of feet black. from a tube or silk thread from a cavity in the berry through a hole in its side to an adjacent leaf through which it crawls out & in. the fruit when half grown perishes its interior being eaten and by the worm Fitch 1<sup>st</sup> rep. 176.  
fruit Gooseberry

To Preserve Furs from Moth

A correspondent submits the following which seems quite plausible, since work in cotton or linen: Shake out or beat them, to expel any moths already in them; then inclose them tight in a cotton bag (or one of linen) in a garret, or other dry place, no access for the parent moth excepted, no eggs will be laid in the furs.

*Linia (affinis) granella*. ? JG Pol of. Rep Ag. 1854 p. 67.

Larva feeds upon the interior substance of Marie & cotton seed in Georgia & at first taken for *Linia granella*. - as its habits were very similar

Jas. p. 9. Geo

Rob. Geo, S.C.

Food plant seed of Marie & cotton.

*Linia*. Europe feeds on *Rosa spinosissima* Jack 201  
parasite in nest.  
*Beltingia fusicornis* Europe

*Ypsolophus* Clem PESP. 2. 122

min. an apple tree  
yellow leaf

*Phalochilus malyolatus* *Stich. 973* *Ag. Sec. 15* p. 463. *Mar. 53*

*Tany abietis* *Kulmer* *icornis* *Stich*

Lar. reside in leaves brown together *Stenod* with a silken thread. July

*Heb. N.Y. (Stich)*

Food plants Apple & Forest trees

Larva head strongly procted on front. max palpi  
long. than the very short mandibles. joints black  
black slender & short. straight. joint very glassy  
translucent elongate, rounded behind

*Tinea a moth*  
? acupress. honey  
acupress. 3y. web.  
henna folded

*Tinea Heller acupressipennella* Clem Pr. Acad. Nat. Sc. Phil. 1854. 257. & PESP. 2. 127.

lar. twice flower yellow  
macula. spot

*Tinea hyalinimaculella* Clem Pr. Acad. Nat. Sc. Phil. 1859. 257. & PESP. 2. 145.

*Heb. Labrador*

& closely allied if not identical with *T. spilotella* *Curr. Linn.*  
*Stanton PESP. 2. 130*

crinis hair

*Tinea crinella* *Har. 493.*

*Berge. p. 67. p. 5 fig 14*

*Ins. p. 101*

*Har. moth Har. Feather moth*

Larva constructs a case in which to live from the materials, on which it feeds. *Fig. 6* from *Berge*  
"In grey yellow the upper wing more brown & *See Har. (Har.)*  
"Feather *Berge.*

flavus. yellow  
pau. pink

*Tinea flavipennella* *Har.* (of old naturalists) p. 494 *Pack. guide 3p*  
*Orange fronted Tinea.* or *Clothes moth* of *Pack.*

Insect thought to be similar to *T. destructor* of *Har*

Larva very destructive to wool on the mounted specimens

of Sheep in the Museum of the Dept of Agriculture  
Insect also found lying dead by hundreds in the Lemmy  
medical Museum at Washington amongst the  
bones &c.

*Ins. p. 66*  
*Fig. 14 D.C.*

Insecting light  
buff orange left on  
forehead very deeply grayish first hair  
larva shaggy

*Heb. D.C. Md. Va. (St.)* *Mar. (Har)*

Food *Flannel Fur Leathers Wool &c*

not *Batis flavipennella* of English entomologists. *Har. 494*

grain grain  
wheat &c

*Tinea granella* *Har. 493. 496.* *Pack. guide 3p*

*Grain moth. European grain moth. Wolf.*

Females lay 30 or more minute eggs one or two on each grain of wheat &c

Eggs deposited on grain May - July & Aug.

Larvae as soon as hatched begin to gnaw the grain & cover themselves

with the fragments which they fasten together with a silken web. *Ins. p. 100*  
*Fig. 12* *Am. 3*  
*Curtis*

When older they fasten several grains together so as to make a large

cavity in which they live, afterwards wandering over the grains

& spinning linings as they go. until they find a suitable place to form

their cocoon. The first wood finish their transformations in 6 weeks

or 2 months, the late broods hibernates *Mar*

Pupa formed in a little oval pod on cocoon about the size of a grain

of wheat in crevices around the corn bins or amongst the grain

Insect emerges from the cocoon in about 3 weeks the pupa having

previously forced itself out of the cocoon by the aid of little sharp

points on the tail (Hummel)

*See Barley Wheat & grain in general*

Lar. soft naked cylindrical tapering  
a little at each end 16 legs light ochre  
or buff with reddish head.  
Drs. with a whitish tuft on forehead  
very long & narrow & curve back like  
a sloping roof & a little turned up  
behind. V-belt with a white fringe  
four wing glossy marked with white  
or light or dark reddish brown  
or blackish spots. & always one  
square spot near middle of outer  
edge. hind wings blackish  
0.30  
0.40

larva. *Ins. 100*  
*Insecta mantonica. Curtis 390.*

*Tinea (officiis) granella* see opposite page.

*Tinea pelionella* *Linn Har. 493.* *Berge p. 37. p. 3 fig 13.*

*Fur moth.*

Larvae fabricate their cases from hair which they (Food Hair)

eat or cut off the skins or beds. & therefore are very injurious

wings near the fore body have a gray gold silver shiny appearance &c.

Not Europe. (Mar? in Har. Ins.)

*Ins. p. 101*  
*Fig. 6* *Am. 3*  
*Berge*

(148)



*Ymea sarcitella* Mesh 2. p 407. Curtis Town insects p 366

*Laverna* " Mesh. & Curtis

*Anacamptis* " Harris 493. Mos 0.

Jack Moth (Harris) Sack or White shouldered Moollen Moth Curtis

L.P. p/101

fig 1. from Curtis.

Larva exist in the destruction of pear & beans which were previously infested by *Bruch* (pear bug), sometimes even combining together the sacks in which they were contained with their webs, when feeding on moollen fabrics the larvae live in cylindrical cases which they form of the materials on which they subsist covered with their excrement *Ymea* rather than *Bruch* in the same case

Larv. destroy Pear & Beans. (Europe)  
Mool & Moollen fabrics.

parasite Europe *Bruch variegator* Curtis. 370

*Ymea* near. L. dull white soft fleshlike sutures between segments but slightly marked head heavy shining brownish yellow 2d segment also on back narrow yellowish white lat segment with a similar spot form cylindrical broadest in the middle 050  
Ins. greasy appearance & form grey (reddish) basal third dull white legs rounded hind margin cut off obliquely hind wing white slightly glossy hind edge  
Hips pale brown spiral tongue long. Fetch — see if in *Ymea* 0.60

Cloth Moth. Remedy alum is recommended as all that is required for furs it should be pulverised & sprinkled into & once then freely or dissolved in water & the liquid applied

corros. in Am Ent 2. p 90

*Ymea*  
Cloth moth. Peak Am Nat. 1 423. p/9 L.P.  
Carbolic acid recommended as a remedy



tapestry carpet

*Tinea lapetzelia* Har 493.

Clem PESP. 3. 507

Pack guide 347

Tapestry or Carpet moth. Har

J.P. Stille. Am Ent 2. p. 90.

Larvae use the material on which they feed to construct

moveable cases &amp; destroy woollen materials &amp;c

Ins pt 77

Fig 14 Clem Coll

Pupa formed in the case. The larva having previously turned out of its case when about to become a perfect insect.

in cabinet Ent Soc Phil

note "This is an European insect I have never before, however met with a specimen of it. I do not know the circumstances of its capture" (Clem)

a single specimen Va. coll Ent Soc Phil

Hab Savannah Tenn (Am Ent)

Food. Fur Feathers Carpets Woollen materials  
Objects of Natural History &c

vests, a garment

*Tinea redianella* Har 493.

Am Ent 2 p 90

Clothes moth Harris

Larvae eat cloth &amp; clothes forming little cases or rolls of the substance on which they feed.

Pupa formed in the same case.

Tenn. (Am Ent)

Food Tapestry Carpets &amp;c

sea maize

Fitch. Tr NY Sleg Soc. 1855. vol 15 p. 532

*Tinea xea*. Fitch 2<sup>d</sup> Report NY Sleg Soc 320.

Mar 51.

Indian meal moth Fitch

Ephraim. Am Ent 2. 374

Larva found burrowing in the seeds of Magnolia & Tringe } (LPS pt 15) seeds of Magnolia & Tringe  
tree also quite destructive to grain of Maize in the Museum } tale. DC.

Dept of Agriculture &amp; to several other seeds &amp; grains } Ins pt 22

Dr Fitch states that they feed upon "emptying casks" of } Fig 16 coll of M. Sanborn Man

Maize. "I saw cylindrical burrows through the substance on } which they feed lining the sides of the passage with fine threads, like cobweb" Fitch

{ pupa formed in a cocoon formed of white silken threads appearing like a coat of mail } through which the chrysalis is visible" Fitch

Food Seeds of Magnolia &amp; Tringe Tree &amp;c. Maize &amp; other grains &amp;c. Emptying Casks of Maize (Fitch), Dandelion (dried roots) Bee bread in Bee hives { Am Ent Vol 2. 374

Parasite Schummacher &amp; Chiffon oblong } De Ent 2. 110

Hab NY (Fitch) Mass. (Sanborn) DC. Md. Va. (Fitch)

{ F. lined Peach. (Walk &amp; Ent 2. 110) } Drye flower seeds particularly pineseres in Jans Clem Dr Ac Nat Sc. Phil 1850. 206

*Tinea ?*

Larva destroyed the stuffed skin of an Opossum in the Museum of the Dept of Agriculture by eating off the hairs, near the roots.

Ins pt 26 Fig 7. DC.

Food Hair. &amp;c. Fur.

Hab DC (Fitch)

*Tinea ?*

Larva destroys woollen cloths. &amp;c. DC.

Ins pt 22 Fig 12. DC.

Hab DC (Fitch)

Opossum back striped a furrow near

*Tinea horstingella* Clem Stanton PESP. 2. 130 allied to ferruginella*Tinea lanariella* Clem. identical with *T. hirsutella* Europa Stanton PESP. 1. 130*Tinea rubilepiscella* Clem identical with *T. fuscescens* Europa Stanton PESP. 1. 130

9. 25. *S. flexuosus* flattened cylindrically soft. 15 segments all white head black depressed 3 labroal segments nearly brown antennae 10-segmented 1st and 2nd segments brown mid. body black. 3rd and 4th legs distinctly developed.

9. 18. *S. formosus* in a scale of life to grow when the leaf drops. brownish in all winter.

9. 36. *S. pal. niger* pale yellow with tapering abruptly to a point legs small 4 antennae embedded in separate sheaths of hair not adhering to each other or the surface of body dark brownish blue color with single brown head

4 *Gracilaria delugata* (Eusebeus) by the length of antennae narrower of the wings. The great breadth of the alia of the hind wings. The moths sit in a very peculiar manner with the head greatly elevated the hind pair of legs concealed & the 2 anterior pairs extended nearly at right angles from the body the fore leg at each side being hidden by the middle leg which is densely clothed with scales.

MAY 2. 1912

*Alphomyia colonella* Linn. Pack guide 339. pg 252 (European also U.S. Hal.)  
 In July 1901 ♀ on a fern on the honey of the humble bee  
 pg 74. The female moth creeps into the nests of Humble bees in June to deposit her eggs  
 and 101 the adulterers live in families. Sometimes of 500 to the total destruction of  
 pg 4. Cuck the progeny of the humble bee. - pupa formed in a cocoon of a dense woody texture  
 is a ♀ *Alphomyia* etc. 1. ♀ not a sign of *Stegomyia colonella* see West 2. 411 (C. n. 1901) 1600 Honey of Humble bee

Syn. } *Aphomia* } <sup>the</sup>  
      } *Glythia* } *colonella* Curtis' farm insects 357

Large Humble bees in England are also destroyed by the larva of a dipterous insect  
*Volucella inanis* which lives in the brood

*Pempfielia* Hub. grossulariae Tach. 97/5  
nyina Gessberg Herbar.

*Incurvaria flavo* Clem Pr Acad Nat Sc Phil 1860 p 5.

Ins. steel blue or bluish green with purple reflection without any spots. mid vein forming a deep green line  
lengthen hairs setaceous anterior 4 on crown and a dense test of erect orange yellow hairs. Fitch

*Incurvaria* to curve

*Incurvaria (Haw) acerifoliella* Clem Pr Acad Nat Sc Phil 1860 p 5. Mor 51.

*Ornix acerifoliella* Fitch 2<sup>d</sup> Rep 1848 Ag Soc. 2 p 272. 4<sup>th</sup> MS Ag Soc. 1855 vol 15 p 4 fig 5. 6. 7.

Maple leaf-eater Fitch

Hab Phil

Larvae reside in round scales adhering to the surface of the leaf, eating round holes & consuming the pulp in semicircles causing the leaves to turn brown as though nipped by frost in Aug Fitch. Fitch

→ present Johnson on Fitch 15 p 525 for publication

*Incurvaria Labradorella* Clem PESP. 2. 416. Hab Labrador

*Incurvaria mediobristella* Clem PESP. 5. p 147. Hab Pa.

Ins taken on the wing in damp woods latter part July.

*Gracilaria flavo* Agan. G.  
gracillo

*Gracilaria liliis* Clem Pr Acad Nat Sc. Phil 1860 p 6. PESP 9.

Larvae when young mine the leaves but at a later period of their growth when young they mine the leaves but at a later period of growth many of the species construct cones by rolling up a portion of the leaf. They devour the inner portion of the cone which thus becomes discolored & easily observed. Clem PESP. 2. 10.

*intestus* old ancient

*Gracilaria intestella* Clem Pr Acad Nat Sc Phil 1860 p 6. PESP. 2. 10. Ins 23<sup>rd</sup> July Pa

*Desmodium plant-*  
*folium leg*

*Gracilaria desmodioliella* Clem PESP. 5. 145.  
*nitellella* " Pr Acad Nat Sc Phil 1860 p 7.

*superbus* super  
frons. frons

*Gracilaria superbi-frontella* Clem PESP. 5. 145. Mor 52 Clem Pr Acad Sc Phil 1860. 6.

bluish.

*Gracilaria blandella* Clem PESP. 5. 145. des. Clem PESP. 3. 505 & Fitch Acad Nat Sc Phil 1863 p 9

fulgidus bright

*Gracilaria fulgidella* Clem PESP. 5. 145.

*Gracilaria venustella* Clem PESP. 5. 145. June 1<sup>st</sup> Acad Sc Phil 1860. 6.

*Gracilaria stigmatistella* Clem PESP. 5. 145.

? corona a crown

*Gracilaria coronella*. Clem PESP. 5. p 145. & Clem PESP. 2. p 121 describe.

Larvae hibernates as it was taken by Mr Walsh under bark of trees in winter (Clem PESP. 2. 121)

Hab Phil

Ins p 69.

Fig 33. Coll of Mr Walsh Phil

*trapez* four  
no pos clear

*Tetralopha (Zellu)* *nitellella* or *robustella* Mor 50  
Carolina Georgia

*xiphioides* dissimulat

*Aphomia (Hüb)* *teronella* Zell Geo. Mor 50

*Myeloides* Hüb  
pulsis state of narrow  
the head.

*Myzalis (Hüb)* *indigenella* or *exaltella* Zellu Mor 50.

*repentes* garrulous

*Pempelia (Hüb)* *lignosella* or *pulvella*. Zellu Mor 50 see p. 126.

*Unacampsis* see *Spononcalidae* p. 145  
robinella etc

*brassica* cabbage

*Cerostoma (Zutr)* *brassicella* Mor see *Plutella limbyrenella* p. 151

*Angyromyges* Mor see *Spononcalidae* p 145.

*Plutella xylostella* Pack 2<sup>d</sup> Rp. Nov. 12.

*Plutella*

- Larvae nearly cylindrical thickest at the middle  
 pale green varying to pale yellow head yellow or  
 dusky, minute black dots each with a single hair 22  
 about 44 on side of each segment numerous dots  
 on neck & head feet black with brown.  
 P. commonly white with black eyes frequently  
 variegated with brown stripes. G<sup>o</sup> in young also, antennae  
 5 ash gray fore wings freckled with black dots  
 on disc & apex have a white stripe on inner margin  
 hind wings clear brown glossy without spots  
 0.52. or det. antennae. Under side of abdomen white  
 variable & the white stripe not always distinct.

#### THE CABBAGE PLANT CATERPILLAR.

Early last month Mr. John Perene of Norwich, Conn., sent us some specimens of young cabbage plants, with numerous holes eaten in the leaves by a small caterpillar. A few days later we received a box containing three specimens of these insects. These were forwarded at once to Prof. Glover, Entomologist at the Department of Agriculture, Washington, D. C. The following is the reply from the Commissioner of Agriculture, giving the name and description of the insect:

WASHINGTON, D. C., Dec. 23, 1871.  
 DEAR SIR: Your letter of Dec. 11, addressed to the Entomologist, has been received, and the following is communicated as his answer:

The insect accompanying your letter, and sent as injurious to the cabbage plant, is the caterpillar of a small moth, named *Plutella limnipennis* by Clemens, and described by Fitch in New-York State Agricultural Report, page 875, as the cabbage moth, *Cerastoma brassicella*. The larvæ eat holes in the outer leaves of cabbage, &c., sometimes riddling them like a sieve, in the autumn. When the caterpillar is disturbed it suspends itself from the leaf by a silken thread. In Maryland there are at least two pupæ formed in the leaf. This insect is synonymous with the *Plutella* in Europe. The perfect insect has the upper wings of an ash lead apex with black dots, in the inner margin. The hind wings are white.

The best remedy most probably would be the same as recommended by yourself for the white butterfly. Washing or syringing the leaves with whale oil soap-suds no doubt would be of use if it did not give the cabbages themselves a disagreeable flavor if not thoroughly washed before using.

FREDERICK VALES, Commissioner.  
 Dipping the plants in whale oil soap-suds is the best remedy we know, and next to this is strong solutions of tobacco water.

*Cerastoma brassicella* Fitch }  
*Plutella xylostella* Linn. }  
 Cabbage worm

By Monthly 1872 137  
 Jy



*Pinea* Fab. Mor 51. see p. 149.

2 dew  
mamm a plum  
warms. a boy

*Xylesthia* (Clem) *pusillicornis* Clem. *P. acuta* Nav. Sc. Phil. 1889, 259. Nov 57.  
Hab. Pa.

? deriv  
effrenatus rash unnoted

*Amymoria* (Clem) *affinisatella* Clem. <sup>in</sup> *Ucas Nat. c. Ph.* 1859. 260  
Hab. Pa.

2  
 a. a. f. o. v. c. carrying back  
 pluma a feather plum  
 frons. front

*Anaphora* (Clem) plum; rotilla Clem Dr Acad nat Sc Phil 1859. 26. Mar 57

Hub Md.

note "I am utterly perplexed with this we have no European form at all recommending it" Stainton PESP. 2. p. 130

Inspl 63  
fig 6. And

Anaphora?

Hab Md. JG, Pa Clem

Ins pl 58  
fig 10. Md.

*Unaphora rozeanella* f. *arsanetica*. Clem. G. Ueas nat Sc 10<sup>th</sup> 1854. 261. Pa

*Incurvaria* <sup>ornith</sup> *acerifoliella* *Fitch.* 101/2  
Haworth. Nov 57. see p. 149.

*Bracon short tailed staph*  
*malus apple tree* —

*Brachytaenia Steph malana* V. Fitch Mon 52 see *Corvix malana* p. 138.

*Plutella nigricollis* Clem is the European P. *Boverella* Food plant Rocket (*Hesperis matronalis*)  
 Stanton P. 8 p. 121

onciferarum of the crucifer  
genus such as cabbage &c.  
XEROS name

*Plutella cruciferarum* of Europe Stained on PESP, 2, p. 131 Am Ent 1. 199.

*Phutella* (Schrank) *limbipennella* Clem. Proc Acad nat. Sc. Phil. 1860. 6.

*Cerostoma brassicella* { Fitch 1st Rep. 170. Mar 51.

Ans  $\frac{20}{23}$  Ma

*Calyptus* nearctic *Hydrellia* } Fitch N.Y.S. Ag Soc. 1853, vol 14 p. 875.

Cabbage mark. Each.  
Turnip, drum, and backed, math 0. Something riddly, them like a some

Ans pl 68

Larvae eat holes in the outer leaves of Cabbage & in the autumn when disturbed suspends itself by a silken thread 2 broods in a season. Pupae formed in a cocoon like spun net work on the leaves &.

Inc 2 broods annually, in midsummer & the second in Oct

Ep. I. p. 92

*Plutella luteipunctella* <sup>occid.</sup> is the European *P. cruciferarum*? ♀  
of Europe - Stanton - P.E.S.P. 2 p. 131 - Food plant Cabbage

10 2 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 10

Parasite Ichneumon Fitch 1<sup>st</sup> Rep. 1792

Gilly flower. & other cruciferae  
Aug. Ent. 1899

in Europe *Campoplex parvus* cur. (Eu)

Class Ent 1. <sup>1</sup>/p 199 S

*Stutella cruciferarum*. *Xylostella brassicella* of Europe are allied Species

Calif. (Fitch) Md Va Lc. (Hb) Illin (Walth) Missouri Am Ent 2/374 (destructive.)

*Hypanomeuta* (Zeller), *Multipunctella* Clem. Mor. P. 52 see *Hypanomeuta* P. 145.

? derin  
Simulatrix a dessembler

*Eubarcia Clem simulatricella* Clem Proc Acad Nat Sc Phil 1860. p 11. Mor 52

καὶ τὴν καὶ  
Χείρας ῥα

*Chaetochilus* Stephens Mor p. 52 see *Ypsolophus* p. 148.

? deriv

*Argyresthia* Hüb. *crasella* Clem. Pr. Acad. nat. sc. Phil. 1860. p. 7. Nov. 52.  
"Synchil" with *Eumecurus* *Androsocilla* "Nantux. BCCR 2. p. 131."

*Gracilaria* Zeller see p. 150

*Gracilaria* Zeller see p. 150





*Colcephora cerasioides* Pack. in *Agriculture of Mass.* <sup>Am. Nat. v.</sup> 1869. p. 232.

I feed on leaves of Cherry Salem Mass.



carya. Hickory *Colocophora caryaeifolia* Clem P&S.P. 1 p. 78.

"Larva mines in leaf of Hickory Sep & Oct.

"Case small dark brownish & in form is a flattened single cylinder fixed to the under side of the leaf. Clem

Food plant Hickory

Corylus harte

*Colocophora corylifolia* Clem P&S.P. 1 p. 79.

"Larva mines leaves of Harte Sep.

Case 3 lines long dark brown irregularly cylindrical compressed or flattened at its hinder end with two teeth about the middle of the upper edge separated from each other about one third of the length of the case & dilated or rounded on the lower edge between the teeth &.

Hart Pa

Clem

Food plant Harte

Viburnum Black haw

*Colocophora viburnella* Clem P&S.P. 1 p. 79.

"Larva mines the leaves of (Viburnum prunifolium) Black haw Sep & Oct.

Case irregularly formed, reddish brown nearly cylindrical with a defective mouth & tapering at the hinder end on the upper edge is a flattened wing like appendage serrated on its upper edge nearly equal to one third of the case in length & the case is attached to the under surface of the leaf & the mine is an irregular blotch. Clem

Hab Pa

Food plant Black Haw

Prunum Can

prunum. splem

*Colocophora pruniella* Clem P&S.P. 1. p. 79.

"Larvae mine the leaves of wild Cherry early in Oct.

Case flattened having a notch on the upper edge about one third from the mouth whence it is curved regularly to the hinder end & the under edge is nearly straight from the mouth to about one third of the length from the hinder end where it is deeply notched & curved towards the upper edge thus forming a tail like appendage. J. E. Clem

Ins pt 96

by 16 coll of  
Mr Sanborn May

Food plant Wild Cherry

Hab. Pa (Clem) Man (Sanborn)

Astrya Ironwood

*Colocophora Astryae* Clem P&S.P. 1. p. 79.

Larva mines the leaves of Iron wood *Astrya virginica* Oct & early Spring

"Case flat rather wide, the edges nearly parallel except near its mouth the upper edge is slightly curved & almost at the hinder end is a slight notch which is sometimes wanting & the hinder end is squarely excised. Case pale reddish brown. Clem

Hab Pa

Food plant Iron wood.

Tilia Linden  
folium leaf

*Colocophora tiliaefolia* Clem P&S.P. 1 p. 80

"Larva feeds on the leaves of the Linden from beginning to latter part of May. Case black somewhat pistol formed straight along the upper edge turned abruptly down so as to form a handle like appendage behind with a further flattened projection about the middle of the under edge whence to the mouth of the case it is cylindrical & Case fixed to the under side of the leaf. Clem

Food plant Linden



*Coleophora* Sp.? Pack guide 352 pt 8. fig 17 May? Lar. pl. 100  
Lar found feeding on Pear, 5th Sep. fig 23 from Poch  
Food plant Pear

green Oak

*Coleophora quercicella* Clem PESP. 1.80

Lar feeds on leaves of oak. Oct. it does not make a mine at base but picks out the parenchyma of the leaf from the under surface leaving a net work of veins & the upper epidermis of the leaf entire. Case blackish brown & smooth the larva permitting the lower edge of the case to come in contact with the leaf, the case is slightly pistol formed, the portion near the mouth circular & deflected upwards which it widens & rises on the upper edge to a hump or projection about the hinder third whence the ventral descends to the posterior end which is squarely & exceeds the under edge is curved to a notch nearly opposite to the hump on the upper edge.

habits of Larva similar to the European *C. Stephenella* of Europe but the case differs from it in form "Clem"

Food plant Oak

note this case was found on the Oak Mid Sep & Oct & resembles the above description excepting that the end is not squarely excised.

Case pt 22  
fig 14. Mid on Oak  
Leaves. Sep.

larvae white  
young pale,

*Coleophora leucochrysellus* Clem PESP. 2 p. 6. desc.

Ins. July. Upper wing immaculate white  
under wing dark fuscous

Habit Pa.

concolor on color

*Coleophora concolorella* Clem PESP. 2 p. 6. Hab Pa

Rosa rose  
flower leaf

*Coleophora rosae foliella* Clem PESP. 2 p. 426. Pack. guide 351.

"Case silken covered with granulations cylindrical slightly compressed the mouth slightly deflexed & the opposite end turned down slightly, hook like. Color gray varied with gray & reddish brown granulations 19 lps. feeds on the whorling buds of the common Hand-doe-leaved Garden rose during the winter the case was attached to a thorn. Imago appears 25. May. "Clem"

Habit Pa

Food plant. Garden Rose

rosa rose

*Coleophora rosacella* Clem PESP. 2 p. 426. Pack guide 351

"Case made of the cuticle of the rose leaf on which the larva feeds it is a compressed cylinder dilated slightly on the middle of the under edge & serrated above. Color dark ochraceous. Lar. Apr 19 (Pa) feeds on the opening buds of Sweet briar & cases attached to the thorns of the bush or one of the principal stems during the winter. "Clem"

Habit Pa (Clem)

Food Plant Rose &amp; Sweet briar

larvae a bundle of roots  
perma. a feather, stem

*Coleophora crotipennella* Clem PESP. 3. 506. desc. Hab Va. Clem

Habit Va. Clem "I used four wings white striped along the veins with dark ochraceous." &c. (Clem.) on the base of the wings are three streaks &c

conspicuous glistering  
A

*Coleophora connexipennella* (Clem) Stainton PESP. 2. 131. nearly allied to *C. Fabriciella* Europe  
Pack guide 351

*Coleophora* ? Pack guide 359

Sep. can long flattened cylindrical web of each end constructed of the same stem of Apple leaf

velutis webis or  
? webbed.

*Liachonidia* (Clem) *velutella* Clem Proc. Acad. Nat. Sc Phil. 1860 p. 18.

Habit Pa Clem

then *Liachonidia* of this from *Neapitris* subgenus (*Chelonaria*)





- Nepticula* "The 6 anterior legs so universally present in Lepidopterous larvae are wanting in *Nepticula* larvae & are replaced by numerous processes or prolegs, each of the remaining segment are furnished with a pair of prolegs making 18 in all. (Clem PESP. 5 p. 146)
- e. Nepticula* Larva mines very narrow serpentine paths in the interior of leaves, the mine being always on the upper surface. The mines vary much in form being sometimes a slender gallery or line either simple or enlarged towards the end into a blotch or a complete blotch. When the larva is full fed it quits the mine cutting for this purpose the separate cuticle in order to weave a minute cocoon.
- The larvae of some dipterous insects make mines that strongly resemble those of some of the *Nepticulae* but they may usually be distinguished by the more maggot-like appearance of the former. (Clem PESP. 1 p. 82.)

*Neptis a grand-daughter*  
or *neue*

*conylus harte*  
*folium leaf*

*Nepticula* <sup>Howe</sup> *conylus foliolia* Clem PESP. 1 p. 88.

Food plant Harte. Pack guide 336

Larva makes a long winding narrow tract in the leaves of Harte in the latter part of July & the beginning of Aug. The full brood may be found early in Oct. The frass or excrement of the larva is deposited in the middle of the tract forming a minute central black line. (Clem)

Has Pa.

Food plant Harte

note "another mine probably a dipterous makes a rather broad tortuous tract much broader than the preceding & the frass is scattered in separate grains along the middle of the tract. (Clem)

*Obolus Ironwood*  
*folium leaf*

*Nepticula* <sup>Howe</sup> *obolus foliolia* Clem PESP. 1 p. 88.

Larva in July & Aug. makes a rather wide and frequently much contorted transparent mine with a narrow central black line of frass. (Clem)

Has Pa.

Food plant Iron wood.

*Neptis virginella* Clem PESP. 1 p. 88.

Larva mines a very narrow long tract not broader than the width of the larva the interior of which is filled up with cup-shaped grains of frass. & which is dark brown whilst the larva is mining early Sept. by the 14th Sep it is nearly full fed. (Clem)

Has Pa.

Food plant Iron wood

*Nepticula plataneella* Clem PESP. 1 p. 88. desc. in Clem PESP. 1. p. 133. & 149. Pack guide 336

"Larva from beginning to mid July forms a blotch which is often extended over the early portion of the mine so as to obliterate it, & again the early portion is present being a slender line from which the blotch is formed. Cocoon of a reddish brown color woven during the latter part of July." (Pa) Clem

Has Pa.

Ind. July, latter part.

Food plant Button Wood or Sycamore.

*Crataegus thorn*

*Nepticula* *crataegifoliella* Clem PESP. 1. 53

"Larva" mines rather a wide tract from the middle to the latter part July. This mine is not long most often tortuous. Sometimes turns back on itself & when nearly straight with irregular edges forms a narrow contorted line of frass running through the middle of it. (Clem PESP. 1. 53)

Has Pa.

Food plant Dwarf thorn  
*Crataegus parvifolia*



a nut leaf containing from 20 to thirty larvae of this insect  
is no unusual sight.

Food plant Nut. (prob. Hazle)

*Nepticula juglandifoliella* Clem p. E. S. P. 1. 84.

Larva latter part July to middle of Aug. mines a very narrow  
whisk track very often acorned & slightly tortuous  
somewhat although slightly enlarged at its end with a  
very narrow central line of frass. Clem p. E. S. P. 1. 84.

Hab Pa.

Food plant Black Walnut.

*Nepticula caryae-foliella* Clem p. E. S. P. 1 p. 84

Lar late July & early Aug. mines like the preceding but rather  
wider & longer & that is tortuous but nearly always acorned  
& with the central frass line. Clem

Hab Pa

Food plant Hickory.

*Nepticula rubifoliella* Clem p. E. S. P. 1. 84. p. 214. p. E. S. P. 1. 84

Hab Pa

Food plant Blackberry

*Nepticula villosella* Clem p. E. S. P. 1. 84

Larva <sup>July</sup> mines a very narrow tract only about wide enough to  
accommodate the mine, tortuous with a central "frass" line (Clem)  
leaves its mine during the latter part of July

Hab Pa

Food plant Blackberry

*Nepticula amelanchirella* Clem p. E. S. P. 1 p. 84 Pack. Guide 356.

Lar June & July mines a rather broad track sometimes much  
contorted with rather irregular edges placed most often toward  
the base of the leaf & having a rather broad frass line of a  
dark brown color

Food plant June or Service berry, Shad bark  
*Amelanchier canadensis*.

*Nepticula ? prunifoliella* Clem p. E. S. P. 1 p. 84

Larva <sup>late July & early Aug</sup> mines more or less blotchy in the beginning with frass  
dispersed & towards the end gathered into a rather broad  
line with the grains distinct. these mines are possibly  
the work of dipterous larvae

Hab Pa

Food plant Wild Cherry  
*Prunus serotina*.

*Nepticula anguineella* Clem p. E. S. P. 1 p. 84

Larva late June & early Oct mines a very narrow serpentine tract  
which is filled or discolored its whole length by blackish excrement

Hab Pa

Food plant Oak.





flat on a broad way  
or narrow band with large head

*Nepticula platana*. Clem P&S.P. 1, 86

Larva "early Oct mines a moderately broad midrib tract with a broad line of dispersed grains of excrement. This mine is much broader than that of the preceding mines." Clem

Hab Pa

Food plant Oak.

rosa rose  
folium leaf

*Nepticula rosafoliella* Clem P&S.P. 1 p. 85.

Larva <sup>early Sept</sup> mines a very serpentine track frequently running around the edge of the leaf including its teeth. Moderately broad, nearly filled with a broad blackish brown frass line the grains of which are dispersed or have a wavy arrangement in the latter part of the mine. Clem

Hab Pa

Foodplant Rose dwarf wild  
*Rosa lucida*.

his tunic  
fascia a band.

*Nepticula fasciella* Clem P&S.P. 1. p. 133 desc. Ins.

Hab Pa Sweet taken at light 11 Aug. Clem

fusca. brownish  
tibia shaft

*Nepticula fuscitubella* Clem P&S.P. 1 p. 133. desc Ins

Ins taken at light 11 Aug Clem

2. Sagina stuffy or  
famine

*Nepticula saginella* Clem P&S.P. 1 p. 85. Clem P&S.P. 5. p. 146 insect desc?

Larvae mine a serpentine rather short track which when occupied or recent is white nearly transparent with a narrow very black frass line. It is frequently bent or curved as the larva approaches maturity both larva & imago are very small. Food plant Oak.

Hab Pa (Clem) ? Md. N.C.

\* leaf & mine p. 73  
fig. 23. Md. Oak.

\* This figure resembles the mine of *Nepticula saginella*, somewhat. I was found on Oak

*N. saginella*. counting head as first segment. 34<sup>th</sup> segment each have a pair of legs 5<sup>th</sup> segment none, the following six segments are each supplied with a pair of legs, whilst the 2 last have none thus making 16 legs in all. Clem P&S.P. 5. p. 146.

*Cutastega*. The insects included in this genus are not leaf miners although they belong to the division microlepidoptera. The insects may not belong to the group *Phycita* & if not they most probably belong to the *Phycites*. The larvae make tubs in which they live with the grains of their excrement & silk on the underside of leaves covering them with a tent or sheet of closely woven silk under which they feed, by picking out the parenchyma of the leaves. They are extremely timid & do not begin to feed or weave until after night fall as the tent is increased in length the silken tent is likewise advanced as it is necessary for the insect to obtain new feeding grounds. Clem P&S.P. 5. 87.

over.



Zatodryos  
covered in*Cinetus trinita**Catantopha limicola* Clem P.S.P. 1. p. 87.

Tube very long cylindrical enlarging from the beginning which is a mere thread until it attains considerable thickness. The open extremity is covered with a web in the middle of which is a gaiter line on each side with frass. The larva passes through it in order to feed. In feeding the larva leaves the outer portion of the web, works of more extent, tube forms on the under side of dark leaves latter part Aug. Early Sept. about the middle of September the larva abandons its tube to form a cocoon on the surface of the ground. Clem

*Hub. Minnesota* Clem

Food Plant Oak

*Catantopha*

Aug 9

Two cases of this insect were found in Sept (Mid) on the Tulip Poplar. 2 similar cases were also found on the Grape & one on the oak. There was a grossy silk matted with *L. Case* p. 83 Aug. 8/9 Mid Aug. Sep. The mounds at the mouth or opening of each case are the last to which it was attached but no other web. The pupa was formed in the case Sept. in other respects it resembles the description as above of *C. trinita*.

Food plants Tulip poplar Oak. Grape

*acer maple**Catantopha acicula* Clem P.S.P. 1. 87.

"Larva forms a moderately long slender cylindrical tube at the base of the leaf of maple (*A. rubrum*) early in July 9; is covered with a thin transparent web close in adhesion the tube increases in diameter from the beginning to the end & is located between two principal veins of the leaf. The web is extended from one vein to another." Clem

*Hub. N.*

Food plant Maple.

*Hamamelis Witch hazel* *Catantopha*? *Hamamelicella* Clem P.S.P. 1. 87.

"Larva constructs a little short tube of frass along the margin of the leaf during the latter part of Sep. the tube is begun in the angle made by a vein & the midrib & the triangular space between them is closed with a thin web of silk having beneath it the tube. Clem

Food Plant Witch hazel  
*Hamamelis virginica*





ovos. juice  
or egg a covering

oliva white  
galena a fused cap. in  
case of feathers

*Opsolegia* (Clem) *allogatarella* Clem P&S.P. 1. 121.

Insect very interesting as it is the first extra European member of the genus as well as the first one that has been described. (Clem)  
none of the larvae belonging to this genus have been discovered (Clem)

*Tricostapha* (Clem) *flavocostella* P&S.P. 1. 131.

*T. flavocostella* Clem P. Acad Nat Sc Phil 1869 p 162  
Hab Md (S&S)

Ino pt 20  
fig 30 Ma

Ino pt 77  
fig 16 coll Ent Soc Phil

*Tricostapha* *viridula* Clem P&S.P. 1. 132 description

Hab Pa (Clem) Ino 17<sup>th</sup> June

? subgr. a channel  
or pipe  
Brow to live

*Sphenoclea* (Muller) *Walshella* Clem P&S.P. 1. 133. Each quies 346.  
*Walshella Sphenoclea*

Larva probably Leichenivorous. Feeds in a portable case consisting of silk granulated with particles of fine sand (Clem) certainly not a wood miner although it occurs under the bark of Shagbark Hickories & other trees with scaly bark. from finding the larva late in the fall & winter I have supposed that it fed on the bark but I am certain in Aug & Sept that it was not there & therefore conclude that it merely relies there to become a pupa. (Walsh in Clem)

Case & Ino 8 pt 49  
fig 10 Nov

Case & Ino 9 pt 20  
fig 32 Nov

Larva found plentifully on Oak &c. Md. in the autumn & winter the larva apparently feeds on some minute lichens or other substances on the bark itself. The cases found in winter produce moths in the spring. the female is without wings Clemens states "that only the males of the genus *Sphenoclea* are winged & the females have recently attracted much attention in consequence of the fact that they lay unimpregnated fertile eggs" (Clem P&S.P. 1. 133.) so that one may named a species for years without ever seeing a male! (Stanton in P&S found on Oak bark Md) { quite 346 } Food plants probably minute lichens

Hab Phil (Walsh) Md Va (S&S)

? larva  
promm. 4 April 18

*Tenaga* (Clem) *formicula* Clem P&S.P. 1. 136. descrip.

Ino taken on the wing 2<sup>nd</sup> July in damp wooded places. Clem

no maxillary palpi & no tongue Clem

? larva  
Scries to serve

*Hypocnema* (Clem) *serenella* Clem P&S.P. 1. 136 descrip.

Ino taken on wing 13<sup>th</sup> July.

Hab Pa.

? larva

*Lysoclea* Clem P. Acad Nat Sc Phil 1869. 349.

margarita a pearl

*Lysoclea* (Clem) *margaritana* (Clem) P&S.P. 1. 137. descr.

Hab Phil. Fla. Clem.



? larva  
with rainbow  
henna plumbeous  
embellish  
or picture work of stripes

*Strobilisa emarginella* Clem. Stanton 2. 132

not "very different from anything in Europe" probably in connecting line between *Strobilisa* & *Pyrrhopterix*

*Strobilisa emarginella* Clem. Stanton 2. 132

larva light or smoky

*Strobilisa* Clem. Br. Acad. Nat. Sci. Phil. 1860. 184

*Strobilisa* Clem. *emarginella* Clem. PESP 2. 4. descr.

Insect when it alights after a flight it walks in a  
wavy line & turns round several times in a circle (Clem.)

Heat Pa. Clem

? *Brentia* arrogans  
inflates inflated swollen

*Brentia* Clem. Br. Acad. Nat. Sci. Phil. 2. 185. descr.

*Brentia* "inflata" Clem. PESP 2. 15. descr.

Heat Pa. in taken on wing July.

virginicus virgin like *Brentia virginella* Clem. PESP 2. 15. descr. Heat Pa.

*Brentia* *Ravonacella* Clem. Stanton PESP 2. 132

Heat Pa. (Patch) "I am disposed to consider this not a *Strobilisa* but rather one of the *Pyralidinae* allied to *Strobilisa* but I never have observed the strutting habit in any of our species" (Stanton)  
The Pl. C. G. Scott of the Lib.

? larva

*Marmara* (Clem.) PESP 2. 7. descr.

Larva much flattened & the segments separated by deep incisures particularly on the sides like the larva of *Lithacollis* it has 3 feet & 3 abdominal prots. & one terminal pair, all very short. it leaves its mine at maturity to weave a white semitransparent cocoon within some crevice of the bark of the tree on which it feeds & upon the ground the exterior of the cocoon is covered with little proto-like globules which resemble minute pearls. The larva rests with the front end of the body elevated. Clem

salix mellae

*Marmara* Clem. *Salicivella* Clem. PESP 2. 7.

Larva mines the young branches of the Yellow willow principally those that spring from the trunk the mine is extremely long & very narrow being only a tract beneath the young & delicate cuticle of the branches sufficiently wide to accommodate the miner & rarely found in early spring before the buds have all expanded the larva may be sought in April (25) About the middle or 10th May the larva will be found blundered alternately with red & yellow with 2 black dorsal dashes on the second segment (regarding the head as the first) this is an indication that it has nearly reached maturity & in a day or two it cuts the cuticle & leaves the mine to weave its cocoon. Clem. PESP 2. 8.

Heat Pa.

mines young branches of Yellow willow

larva a short  
pyralid  
injunger diligent  
miner.

*Glyptopterix* (Hüb.) *impigritella* Clem. PESP 2. 9. descr.

Heat Pa. Insect taken on the wing July.

*Gelechia* (Lell.) Clem. PESP 2. 11

The habits of the larvae are extremely varied feeding upon leaves, young flower buds & young shoots & in the interior of granis & seeds. The species that feed in buds & shoots are mostly in the larva state in spring & early summer, those that feed in and upon leaves are met with in summer & autumn those that feed on seeds do so in the autumn & winter. Clem

vs earth  
H. K. 2, a larva.

*Gelechia*. The following table of species may facilitate the recognition of species. Some of them included in the table have been described in the Proceedings Acad Nat Sciences Phil 1860 p 162.

Fore wings white or yellowish

with no sharp markings in apical cell

1. With an oblique line near tips  
Fore wings white or yellowish with costa white *Nigratomella*  
Fore wings yellowish fuscous *Glyptomella*
2. With a large median patch *Mediofuscella*
3. With dorsal spots or dots  
well dusted with fuscous nearly to the base *Angustipennella*  
Slightly dusted with fuscous. *Punctipennella*
4. Without distinct dots wings nearly unicolorous *Cercatella* ?  
1. With sharply marked line in apical cell *Apicellumella* is this not *Anacampsis annulata*?

Fore wings dark gray or dark brown without roscate hue

Fore wings with bands

1. Bands transverse  
with 2 white bands and a costal spot *Labraionella*  
with one concave yellow band *Agrimoniella*  
with one band near the apex doubly curved *Flexurella*  
Hind wings apex produced *Mumella*  
Hind wings apex rounded
2. Band long longitudinally curved white *Longijuvella*  
Fore wings with costal spots or dots, *fuscofunicella*  
The spots black. *Glyptomaculella*  
The spots rather indistinct yellowish  
Fore wings dorsal spot *Choipectella*  
Hind wings broader than the fore wings  
Hind wings as narrow as fore wings *Pallipimbrilla*  
Fore wings dark fuscous tinted with yellowish *detorsella*.  
Fore wings with a roscate hue  
with alternately white & dark brown bands *roscosuffusella*  
without distinct bands. *nubecella*

<sup>2</sup> note what is *Gelechia cercatella* now *Anacampsis* (Guen) p. 145.  
Ann. Acad Sc. Phil 1860.



*Gelechia cerealella* Clem PES P. 2, 120. 4 1/2 lines Nat. Sc. Phil 1860. <sup>162. see under 2 p. 301</sup> Pack guide p 350  
*Unacampsis* (Pulvis) *cerealella* H. annu 34. P. O. Ag. Rep. 1854 p. 67. 314a  
*Butalis cerealella* { Fitch & NYS Ag. Soc. 1861 vol 21. p. 813. LPS p. 17  
*ductilis* n. det. 1789 Har 483 1/2 p. 1. Wheat 924.  
*Unacampsis* grain moth.  
*Phaeophanes grandis* Kirby Verme. Har nite ? Lavena. Curtis. (Harris)  
*Smith hordley*

Eggs 60 to 90. placed in single clusters of 20 or more on a single grain  
 Larva when hatched disperse, each one choosing a single grain in which  
 it burrows at the most tender part; commonly where the plumule comes  
 out it then devours the inside or heart of the grain & when fully grown  
 gnaws a small hole nearly or quite through the hull & sometimes through  
 the chaffy substance

Pupa formed in the grain often after the larva has spun a sort of silken  
 curtain to divide the hollow in one of these partitions the pupa is formed  
 the other containing feces &c

Insect emerges out of the hole already prepared by the larva, the insects of  
 the forth or summer brood remain about 3 weeks in the pupa state those  
 of the second brood (North) hibernate in the grain & emerge next summer  
 to deposit their eggs on young ears of growing grain Bluffin & others  
 think however that but few eggs are deposited on grain when in  
 the field Nov. May & Nov. (W. Fitch) introduced from Europe

Parasite *Phaenocarpa* Har 402. Food plants Barley Buckwheat Cal Maine  
 Wheat & grain in general.  
 Hab N.E. Md. Va. (L.) Mass Had. Michigan &c

DEPOSITED  
 11 919W  
 11-1-7

of barley contains the precise quantity  
 its hosts until it is full fed, for if  
 & smaller larva we find that there  
 is still to be consumed according to  
 visible is that in the latter case we  
 circumvent the larger pellets than we find  
 (Roumex Stalton) it is this process  
 none know since " Pack guide 350

Small, pointed Eggs 7-10  
 rounded by a few minute  
 than the rest rings of body  
 bases extending to nearly double  
 antennae thread like with  
 clear long & curved upward  
 blackish near the tip 21 joint  
 1st joint very short & hairy  
 with of antennae. Body 40-50  
 creaming long narrow & slender  
 for more or less spotted with  
 near the tips hind wings  
 are, narrow & shining & obliquely  
 at tips & slightly submarginate  
 white on the white margin than  
 lengthwise when at rest beneath  
 blackish hind most legs fringed

*Gelechia* (Lellus) *funiginella* I 68/19 Klen  
*Gelechia* *cicoides* Rely Mn. I CIV/19

*Gelechia*. The following table of species may facilitate the recognition of species. Some of them included in the table have been described in the Proceedings of the Acad. Nat. Sciences Phila 1860 p. 162.

Fore wings white or yellowish

with no sharp markings in apical area

1. With an oblique line near tips  
Fore wings white or yellowish with costa white *Nigmatomella*  
Fore wings yellowish fuscous *Givobanella*
2. With a large median patch *Mediosella*
3. With discal spots or dots  
well dusted with fuscous nearly to the base *Anquetipomella*  
Slightly dusted with fuscous. *Punctipomella*
4. Without distinct dots wings nearly unicolorous *Cerealella* ? is this not *Anacampsis areolaris*  
1. With sharply marked line in apical area *Apicalisella*

Fore wings dark gray or dark brown without roseate hue

Fore wings with bands

1. Bands transverse  
with 2 white bands and a costal  
with one concave yellow band  
with one band near the apex or  
hind wings apex produced  
hind wings apex rounded

2. Band long longitudinally over  
fore wings with costal spot or a  
the spots black.  
the spots rather indistinct yellow.  
fore wings discal spot

Hind wings broader than the fore wings  
Hind wings as narrow as  
Fore wings dark fuscous  
Fore wings grayish dusted  
Fore wings with a roseate  
with alternate white & dark  
without distinct bands.

*Butalis cerealella* (France)

"The infested corn (grain) loses 40 per cent in weight &  
75 per cent in flour." Curtis 336

"The caterpillars & chrysalides may be killed by applying  
heat and its moderate action for a certain period is  
more efficacious than intensity for a short time." Curtis  
"an insect mill like a coffee roaster at a temperature  
of about 167° of Fahrenheit the Beetles of life in the  
grain" Curtis 336.

Corn (grain) submitted to this heat is not more  
subject to ferment, to be devoured by insects nor  
is it less capable of vegetating than that which  
has not undergone this operation. Curtis 336

Angoumois moth. *Butalis cerealella*.  
Wheats & Indian corn &c.

Grain heated for a short time to 190° of Fahrenheit  
does not lose its germinating power but kills the  
insects & larvae.

Brisk friction and agitation will also kill these  
insects. 10° Harpin agitator or shaking machine  
invented in France, Felch 315, Reg. Rm. of

2. note what is Gelechia's *Cerealella* &  
Am. Nat. Soc. Phila.

*Gelechia cerealella* Clem PES P. 2. 120. *Har. Acad Nat Sc Phila 1860* 162. *See also* 2 p. 307  
*Macampsis (Batalis) cerealella* Harris 29. *P.O. Agr. Rep.* 1854 p. 67. *fig 1. Wheat. M. 4.*  
*Batalis cerealella* { *Fitch & W.S. Agr. Soc.* 1861 vol 21 p. 813.  
*alutella* { *Har 498*  
*Urogon maei* grain moth.  
*Ephestia grandella* { *Harby* *Science*. Har not 2 *Lavenna*. *Curtis*. (Harris)  
*Trid. hordei* { *Eggs* 60 to 90. placed in single clusters of 20 or more on a single grain

314a

Larva when hatched disperse, each one choosing a single grain in which it burrows at the most tender part commonly where the plumule comes out; it then devours the inside or heart of the grain. When fully grown gnaws a small hole nearly or quite through the hull & sometimes through the chaffy substance.

Pupa formed in the grain after the larva has spun a sort of silken curtain to divide the hollow in one of these partitions the pupa is formed the other containing feces &c

Insect emerges out of the hole already prepared by the larva; the insects of the first or summer brood remain about 3 weeks in the pupa state. Those of the second brood (North) hibernate in the grain & emerge next summer to deposit their eggs on young ears of growing grain. *Steffen* & others think however that but few eggs are deposited on grain when in the field in May & Nov. (W. Fitch) introduced from Europe

Parasite *Phaenocarpa* Har 402. Food plants Barley Buckwheat Cato Maine  
 Wheat & grain in general.  
 Hab N.Y. Md Va. (H.) Mass Had. Microsc. Lib.

*Gelechia cerealella* "a grain of wheat or of barley contains the precise quantity of food necessary to nourish the larva from its birth until it is full fed, for if we open a grain inhabited by a younger & smaller larva we find that there is more or less of the substance of the grain still to be consumed according to the size of the larva but what is remarkable is that in the latter case we find at least as much probably more excrement & in larger pellets than we find in a grain tenanted by an older larva" (*Reaumur* *Staudon*). "it is this insect to eat its excrement over once perhaps more than once" *Pach guide* 350

2. *Gelechia cerealella*  
 1. *larva*  
 2. *larva*  
 3. *larva*  
 4. *larva*  
 5. *larva*  
 6. *larva*  
 7. *larva*  
 8. *larva*  
 9. *larva*  
 10. *larva*  
 11. *larva*  
 12. *larva*  
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 89. *larva*  
 90. *larva*  
 91. *larva*  
 92. *larva*  
 93. *larva*  
 94. *larva*  
 95. *larva*  
 96. *larva*  
 97. *larva*  
 98. *larva*  
 99. *larva*  
 100. *larva*

*Gelechia (Tetralis) fumipunctella* I 68/19. *Ellen*

*Gelechia cerealis* *Rely* *Mn.* I CIV/19





- rufidulus* red  
*setosus* (scars) or  
 pygidium
- Gelechia* <sup>group</sup> *macractata* Clem Stanton PESP. 2. 181. resembles somewhat European *G. fuscipunctella* etc.  
*Gelechia* *maculifella* Clem Stanton PESP. 2. p. 182. allies to *G. fuscipunctella* <sup>Europe</sup> etc.  
*Gelechia* *detritella* Clem Stanton PESP. 2. 182. allies to European *G. affinis* which facts are very int.
- Gelechia* *felix* *nigratimella* Clem PESP. 2. 11. desc. & Clem PESP. var. desc.  
 Hab Pa. va Clem
- 
- medium the middle  
 fascia a band
- Gelechia* *mediopunctella* Clem PESP. 2. 11. desc.  
 Hab Pa
- 
- fusca brown  
 punctum a point
- Gelechia* *fuscepunctella* Clem PESP. 2. p. 12. desc.  
 Hab Pa
- 
- gibbus flesh color  
 macula spot
- Gelechia* *gibbomaculata* Clem PESP. 2. p. 12. desc.  
 Hab Pa.
- 
- longus long  
 fascia band
- Gelechia* *longifasciella* Clem PESP. 2. p. 12. desc.  
 Hab Pa.
- ? In fig 77  
 fig 77 coll ent Soc Phila
- note. This figure differs somewhat from Clemens description  
 the yellowish streak not covering one third & no mention  
 made of the second yellowish mark.
- 
- Gelechia* *labradoriella* Clem PESP. 2. p. 12. desc. & PESP. 2. p. 117  
 Labrador or *Gelechia*  
 Hab Labrador
- 
- angustus narrow
- Gelechia* *angustipunctella* Clem PESP. 2. 119. desc.  
 Hab Pa
- 
- punctum a point  
 fens to bear
- Gelechia* *punctifurcella* Clem PESP. 2. 119. desc.  
 Hab Pa
- 
- gibbus flesh color  
 larva line
- Gelechia* *gibbolineella* Clem PESP. 2. 119. desc.  
 Hab Pa
- 
- apex apices the tips  
 larva line
- Gelechia* *apicilineella* Clem PESP. 2. 120. desc.  
 Hab Pa
- 
- pullus small or brown  
 fimbria fringe
- Gelechia* *pullifimbriella* Clem PESP. 2. 120. desc.  
 Hab Pa
- 
- brunna minute
- Gelechia* *brunnella* Clem PESP. 2. 116. var.  
 Hab Labrador
- 
- ornatus decorated  
 fimbria fringe
- Gelechia* *ornatofimbriella* Clem PESP. 2. p. 120.  
 found in winter under the loose bark of trees (Malik)  
 Hab Illin
- In fig 68  
 fig 6. coll of Mr.  
 W. A. C. Allen

"differs from the *Gelechia* in the structure of the labral palpi the second joint of which is almost brush like beneath & the abdomen is somewhat flattened above" Clem PESP. 2. p. 120

*Gelechia circoides*. Riley Mus.

L. green. ringed or banded with white.  
 found by Mr C Dodge on the { Judas tree or Red bud,  
 Md. July. { *Cercis canadensis*.

Robt Va. (C.R.D.) Mo. (Riley)

Ins. pl 104  
 fig 19 C.R.D.

rodens rose color  
inflatus ovipositor or spiracles

*Gelechia rosea*, *Gelechia Clem* Stanton PESP 2 p. 131. allied to *longipennis* Schenck (S1)

Lar inhabits fruit Panicle of Sumach. Pack guide 350

G

*Gelechia gallaegonitella* Clem PESP 2 p. 320 desc. & Clem PESP 3 p. 506. desc. Am Ent 1. 12 fig. of var.

galla gall  
genus born on leaf

Insect two bred from { <sup>Plants</sup> oak apple galls of *Cynips*  
*quercus spongifica* (Osten Sacken) by Mr Walsh Illin

Parasite Bracon Am Ent 1. 110.

Hab Min. (Walsh) va (Clem) ( & 2 other galls. Am Ent 1. 110 )

fungus. voro to decur *Gelechia fungivorella* Clem PESP 3. p. 507. Pack. Guide 350

Larva mines a cabbage like gall "brassicoides" peculiar  
to *Salix longifolia* & a pine like gall on *Salix cordata*.

named *strobiloides* by Osten Sacken. (Clem) Walsh. PESP 3. 507

In pl 68

Insect. 1<sup>st</sup> - 15 Aug

mines Galls on Willow

fig 19. coll of  
Mr Walsh  
Illin

Hab Illin. Clem.

note although the figure differs from Clemens description yet the specimen  
was sent under the name of *G. fungivorella* by Mr Walsh perhaps it is  
a var.

*Salix salix* of the willow *Gelechia Saiciifungivella* Clem PESP 3. 508. desc.  
fungus a fungus on leaf bud

Larva mines the gall "brassicoides"  
In Aug 3. - 13.

note "possibly as the character of the markings resembles those of *G. fungivorella*  
it may be the same species.

Hab Illin (Clem)

Gall on Willow.

agromony a plant *Gelechia agromoniella* Clem Coll in cabinet Ent Soc Phil & Stantons Observations PESP  
2. p. 131

Agromony.

In pl 77

allied to *Flugulella* & *G. lunicollis* (Stanton, PESP 2. 131) fig 38. coll Ent Soc Phil

*Gelechia* ?

? In pl 97  
fig 13. mo. Riley.

Hab Missou  
(Riley.)

galla gall  
Solidago golden (Riley)

*Gelechia gallae-solidaginis* Riley 1<sup>st</sup> Rep Mo. P. 173. pl. 2 fig 12. Am Ent. 2. 212  
Solidago gall Moth

In. winter over may be seen flying in May. The female moth

In pl 97

departs an egg either in the terminal bud or at the side of the stalk just below

fig 14. 15. coll  
of Mr Riley Mo

on young plants of Golden Rod. the worm hatches from the egg, works into the stalk

In. pl 108

& causes it to swell by growing thus increasing the secretions of it, by the middle of July

5

both gall & maker have attained full size it then cuts a perfectly round passage into

its upper end through which the perfect insect may escape

entirely through the wall of the gall at its upper end. This gall is placed near the ground, about 6 inches from it. Riley

→ parent  
*Microgaster lunicollis*  
Riley 3<sup>rd</sup> Rep 188

Hab Mo. In Aug to Oct.

deris

*Heterocera* Clem. PESP 2. 114. desc.

Gall on Golden Rod

The perfect insects bear some resemblance to those of the genus *Gelechia*

they are sluggish in their motions & flight Clem

*Heterocera* (Hem.) *chaetocerosella* Clem. Desc. Phil P. 2. 120.

Hab Pa (Clem)

Insect appears to be very variable Clem

(15)





*Holococera glandulifera*. Riley 4<sup>th</sup> Rep. 144. Can Ent. vol. 4 p. 18

I feel in Acorns that have previously been injured by  
*Balaninus rectus* or upon the sap in the acorn  
 winter or spring Ins pl. CXVII. fig 4

Acorns (when injured by other insects)  
 see also pl. 20 fig 5.

*purpurea purpurea*  
*coma hui*

*Holococera purpurea comella* Clem P&S P. 2. 122 desc.

Hab Pa

*caerula frugis*

*Holococera galboviridis* Clem P&S P. 2. p. 122 desc.

Hab Pa

*modesta modesta*

*Holococera modestella* Clem P&S P. 2. p. 122 desc.

Hab Pa

*EPICOS. unguis singli*  
*OTOMA. boni*

*Encostoma*? Stephens desc. Clem P&S P. 2. p. 126

*Encostoma*? Packardella Clem P&S P. 2. p. 126  
 Packard *Encostoma*

*OPUS. short-*  
*lupina. frugis*

on one punctum point or dot

*Trachyloma* (Clem) *unipunctella* Clem P&S P. 2. 126 desc.

Ins pl. 77  
 fig 10. coll Ent Soc Phil

Hab Md?

? *serici*

*Pignitia* Clem Pr. Ucar Nat. Sc. Phil 1860. 175. 1

*OPUS. pale coma hair*

*Pignitia* (Clem) *ochrocomella*. P&S P. 2. p. 126

Hab ?

*notus broad*  
*caput. itis. head*

*Pignitia ochrocella* Clem P&S P. 2. 172. Hab

*Pignitia latocapitella* Clem Stinton P&S P. 2. 132.

*Troxia Homocelia*. Clem P&S P. 2. 127.

Description

note the following insects are placed in  
 Clem. under this group but mark T. instead of Homocelia  
 possible may be *Troxia* & *Chaetoceros*  
 for convenience they will be named ? Homocelia in list

in three or twice  
*angulatus bandis*

*T. trivirgulatella* Clem P&S P. 2. 127. desc.  
 ? Homocelia.

*costa. outer edge of wing*  
*signum a mark*

*T. costisignella* Clem P&S P. 2. 127. desc.  
 ?

*Chaetoceros*? (Treitsch) Clem P&S P. 2. p. 127. desc.

*canis gray*  
*canis gray*

*Chaetoceros*? *canicinctella* Clem P&S P. 2. p. 127. desc.

*Walsh*  
*Amorpha (Haut.)*

*Walshia* (Clem) This genus is apparently related to the genera *Laverna* &  
*Chrysoclesta* & partakes of the characters of each of them Desc Clem P&S P. 2. p. 418

*Walshia amorphaella* Clem P&S P. 2. p. 419. Des. Riley 2<sup>d</sup> Rep. 132

Ins pl 69

True Indigo gall moth. Riley

Larva burrows in a gall formed on the stem of *Amorpha fruticosa*  
 & undergoes its transformations within it Clem

fig 21. coll of  
 in Walsh

Hab. Pa

myth name

*Laverna*. *canis* *incul* Clem P&S P. 2. 418

*Chrysoclesta* " " " "

*Xanthos* gold  
*Xanthos* & wash



myth name  
also used by Bda. for one  
of the Populionidae

*Hamadryas* Clem desc. PESP 2p. 422 "appears to be congeneric with a portion  
of the genus *Gellulus*" Clem

*Hamadryas Bassettella* Clem PESP 2. 423.

*Bassettella Hamadryas*

Larva feeds on a gall found on Oak. These galls are  
formed on the smaller branches 3 or 4 being aggregated  
are globular yellowish brown, shining & hairy. (Clem)

Ins pl 77  
fig 39. coll Ent Soc Phila

Hab Waterbury Count. (Clem)

Oak Gall.

? deriv

*Cyclophasia* Clem. Desc. PESP 2. 424

"The mine of the larva is like that of *Elachista* beginning as a thread  
like mine. Towards the latter part of its larval life it enlarges into a blotch  
when it has arrived at maturity. It cuts a perfectly circular disk from the  
upper cuticle of the leaf & folds it along its diameter & under the edges of the  
circumference, when completed the larva enclosed in its semicircular cocoon  
lets itself fall to the ground where it attaches the cocoon to some adjacent  
object. (Clem)

*Cyclophasia* (Clem) *pauicifoliella* Clem PESP 2. 424 desc.

Lar mine the leaf of *Panicum clausostemum* Early July (Pa)  
mine begins near the base of the leaf as a minute thread-like  
line & runs to the tip distance between along the sides to the  
middle of it when it is irregularly enlarged by the larva

Hab Pa. Clem

minis. Panic Grass

also X 1505: the smallest

*Elachista* (Clem) PESP 2. 425.

*Cosmiotes* Clem & Read Nat Sc. 1860. p. 9. & R. 172.

*Elachista brachyelytri-foliella* Clem PESP 2. 425 desc.

3000's short  
Ely for sheath or cover  
folium leaf

Lar. minis leaf of *Brachyelytrum aristatum* early July Pa.

mine at the beginning is thread like but afterwards becomes a blotch

Lar. spun a slight web in which the larva attached its anal legs 12 July (Pa)

Ins. appears 98th (Pa)

Hab Pa.

minis (cl) *Brachyelytrum aristatum*

orchestrum mountain

*Elachista* ? *orchestrella* Clem PESP 2. 430. desc. Hab Pa. Photo guide 352.

2000's thick  
asps horn

*Dasycera* (Clem) *Neomanella*. Clem PESP 2. p. 428. (desc. Gen. 84p.)

Newman's *Dasycera*

Hab Pa. (Clem) Ma (H)

Ins pl 53  
fig 16. Ma. Ins pl 77  
fig 12. coll. Ent Soc Phila

Wilson  
breeds short  
seta stripe

*Melonia* Clem *brevistella* Clem PESP 2p. 429. (desc. of Genus 74p.)

Hab Pa.

? deriv

*Balaethra* Stainton. Clem PESP 5. 142.

"mine narrow especially hind ones which  
are sharply tapered with a tuft near the base of  
the cord." Pack. guide 352.

*Salix* salicis willow  
pomum apple or fruit

*Balaethra salicis-pomonella* Clem PESP 5. p. 143. desc.

Pack guide 352.

several

Ins. bred from Tentative dividosas gall *Salix pomum* & a

single one from *Cecidomyia* gall *S. rhododendri* Walsh

Ins prob hybernates normally in the larva state

? Ins. pl 69  
fig 10. coll. of  
M. Walsh

Hab Illin (Walsh)

from galls on *Salix cordata*.





add also Genera by Stainton, PESP 130  
not otherwise mentioned in PESP by Cresson

punctum point or dot  
penna plume or feather

*Anorthocia punctipennis*

see Stainton PESP. 2 131.

Ino pl 68 coll of Mr Walsh  
fig 12

"*Ab. M. Walsh*", allied to *Chlorocera* I do not feel confident that  
it is generically distinct (Stainton)

Ino pl 71 coll of Mr Walsh  
fig 11

argenteum silver  
cinctus surrounded or encircled

*Callima argenteicinctella*

coll Ent Soc Phil.

Ino pl 74  
fig 8. coll Ent Soc Phil  
Clem.

*Euthecamus* <sup>Stainton</sup> PESP. 2 p. 130.  
E & add or transfer  
no repeats a cut of hairs

"larsen" in the (Europe) larvae agree in structure with Chile  
union of 8 more or less  
fascicled = men 2. #12

*Phibosia tasquella* Cress Stainton PESP. 2 p. 132.  
? or 18 to 20 yellow hairs  
tarsus rough or shaggy places, moss grounds

*Lamprosonia capitella* Europe Inst 2. 412

caput  
head.

Larva somewhat resembles larva of *Cassio lychnis*  
& burrows into the young shoots of the Currant

*Lucia*  
1899 name

Jan 15 Alacatlote

elongated form narrow wing like *Pomacentrus*  
 but except in one genus are singularly cleft into  
 narrow feathered rays, fore wings having 2, 3, 4 or 6  
 of such rays & the hind wings 3 or 6 such rays which  
 are beautifully feathered on each edge. They are  
 found horizontally in groups, numerous long  
 slender & delicate. Latent palpi very short  
 maxilla long max palpi not evident legs long  
 slender & femora with one intermediate & 2  
 apical & sub-apical spurs. (J. 6 photos Aug. #408)  
 Somewhat resemble *Centropomus* (but very small) being  
 spotted the rather sparingly with long hairs & scales.  
 I variable either naked or covered in a mucous or  
 elongate scale. Buccal & pharyngeal in a  
 throat or apert by hooks at posterior extremity  
 of body to a layer of teeth on the leaves.

*Herophonus persicellus* Riley 3<sup>d</sup> Rep. 65. shows web fastening the leaves on extremity of shoot length

L. hatches as soon as the leaves begin to expand feeds for about 3 weeks then  
 fastens itself by the hind legs to the underside of some leaf or other object.

Extremely  
active

Then transforms into the pupa state Smith the lowest part of the three or  
 four terminal joints fastened to a little silk previously spun by the worm  
 hangs at a slant of 40 degrees. The pupae appear to take the color of the object  
 they are attached to being green if on leaves & brown if on stalk Riley 3<sup>d</sup> Rep. 67  
 the pupa state lasts about one week.

Slender (not 90) } We found only one that first there is only one brood annually & suggests that  
 the mother that appears in bud time may deposit their eggs near the base of the  
 bud from which the next season a new will spring that it remains quiescent until spring.

*P. persicellus*

1. 16 feet almost cylindrical pale green segments rather  
 deep transverse constriction 2 rows of elevated white  
 spots along the back & one on each side spots in a  
 row on each segment below spots on dorsum white dots  
 all thin spots & dots having white bristles
2. June one increased obliquely like other attached to glass  
 having first then thorax upon it slender conical slightly  
 truncated at end two long compressed horns with bristles  
 filling upwards from mid back below varying fine pale  
 green with deep green stripe along middle of back thorax  
 spotted on dorsum of head dark brownish yellow; 3 pale  
 brownish yellow with black stripe along the back.
3. agile trapped in motions sawing yellow fore wings  
 with 3 white spots (they are brown) blacker bands  
 orange white with blackish spot on middle & another  
 on apex of inner margin.

Alucitidae <sup>Leach</sup> Desmoulin. 4. 3 V. sp. Feather wings moth Har

*Alucites* *Stål* wings entire. no sp.

"The distinct genus *Psycheta* Latr & the subgenus genus *Aluciphorus* are assumed to be the connecting links between the *Distia* & *Desmoulin* Met 2. 323. *Stål* May. p. 100 fig 16 for *Pack*.

*Aluciphorus* *Stål* anterior wings 2. posterior 3 lobes

*Aluciphorus* *periscelidactylus* *Fitch* 1<sup>st</sup> Rep. 149. *Stål* Tr. N.Y. Ag Soc 1856 vol 16 p 402. Am Ent 1. 224 p 1 var. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Gartered or Grape vine plume moth *Fitch* 1<sup>st</sup> Rep. 149. *Stål* Tr. N.Y. Ag Soc 1856 vol 16 p 402. Am Ent 1. 224 p 1 var. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Larva & pupa about 3 weeks or less made of leaves drawn to gather *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Pupa 6.8 to 12 days by which like threads June (NY) & early young leaves *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Hab N.Y. (Fitch) New (Walsh) Missouri (Riley) Md (Stål) Good plant Grape

*Aluciphorus* *periscelidactylus* *Pack* guide 357. *Saunders*. Rep. *Travis* *opuscule* Am. Ontario 1870 p 102

Lar about half an inch in length pale green with greenish yellow head along the body is a double dorsal pale line whitish tubercles from which proceed very long unbranched hairs the body is also covered with short white hairs giving it a frosted appearance it feeds upon the young leaves of the grape hiding its cell in a hollow ball made of the leaves drawn together by threads pupa remains one of the chrysalides of the butterflies in its habit of remaining attached by the tail to the plant on which it feeds

Remedy. Handpicking Am Ent 1831 2. 236. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

*Aluciphorus* (Europe) *cepsularis* in habits flying over low plants Larvae somewhat resemble those of the *Arctiidae* being colored although sparingly with rather long hairs they run 16 feet & are very inactive the rays of the wing are composed of the nerves without any of the intervening membrane which seems to be transformed into fringes in region the *Aluciphorus* have the habit of folding their wings so as to appear to consist of only a single broad wing Met. 2. 416

Lar when about to change into chrysalides fasten themselves by the hind feet & lay a loop over the back like the *Lycaenids*. Har. 570.

*carduus* *thistle* *var. rosae* *fringe*

*Aluciphorus* *carduidactylus* *Riley* Rep. Missouri 1. p 80. 2 fig 18 14 *Pack* guide 357. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

*Thistle* *Plume*. *Riley* *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Eggs deposited either at irregular intervals in the same place or hatch. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Larva several in one web draw the heads of thistles together by means of silken threads with some of the leaves etc. May (Missouri) *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Pupae formed end of May (Missouri) within the burrows the larvae inhabited *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Insects emerge in about a week. *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Hab Miss (Riley) Md (Stål) Can. *Saunders* Good plant *Thistle*. *Riley*

*Aluciphorus*

Hab Texas *Ind* from Texas sent by Dr. Leconte *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

*Aluciphorus* ? *Stål* p. 44 *Stål* p. 100 fig 16 for *Pack*.

Hab Md.

Porrectaria. War Cor 223 fig 46.

Larva inhabits a moveable case.  
Oct. nov. found abundantly on fences crawling about

"can the larva live on mossy particles on fences or  
on lichens" ? Har. food plants Primly Lichens ✓

length of all 94 inch form cylindrical or fusiform anterior  
end curves down a little that are opening beneath

the other end is closed by 3 bevelled lips meeting in a point  
capable of being opened when the larva wishes to feed its  
extremities. (Har) description of case agrees with that of

Not known by Packard in Microphoridae?

Prax antipraxis - abundant



*tennis narrow* *tennicladytes* Fitch 1<sup>st</sup> Rep. 144. Fitch Tr NY S Ag Soc. vol 16. 1853. p 848  
*tennicladytes* Fitch 1<sup>st</sup> Rep. 144. Fitch Tr NY S Ag Soc. vol 16. 1853. p 848  
 slender lobed plume. Morris 34

Ins. July upon brakes Sweden

Expanse .0.60. Lemony brown, somewhat tinged with coppery red  
 on fore wings a white spot towards the base of each cobe. I filed on  
 the side like a transverse white streak towards the base  
 of each lobe towards spot & after fringe whitish with black spot  
 in the middle & a larger black spot at apex of inner margin &c

Ins pl 51 (Ms)  
 fig 1. beautiful

Hab Md. N.Y.

*margineus margin* *Strophorus margincladytes* Fitch 1<sup>st</sup> Rep. 144 & Tr NY S Ag Soc. 1853 vol 16. p 848.  
*Strophorus margincladytes* Fitch 1<sup>st</sup> Rep. 144 & Tr NY S Ag Soc. 1853 vol 16. p 848.  
 Brown bordered plume.

Ins. taken (NY) latter part of June on weeds along borders  
 of meadows.

Ins pl 51  
 fig 2 Ms.

Expanse 1 inch. Lemony brown fore wings varied with white  
 black spot. Like spot. Hab N.Y. Md.

Fore wings varied with white cloud like spot, fringe  
 whitish. Brown at outer vertex apical angles inner  
 brown spot at beyond mid of inner margin - hind  
 wings pale lemon yellow. 1. 60

*Strophorus navescladytes* Fitch 1<sup>st</sup> Rep. 145 & Tr NY S Ag Soc. 1853. vol 16. p 849.

Freckled plume

mauve a shot or pebble  
*Strophorus junger*

Expanse 1.0. 90. with white fore wings sprinkled with black along which  
 form a black line at the commencement of the cleft & a dot half way from  
 this to the base &c. Aug (N.Y.)

Hab N.Y. Md.

Ins pl 52  
 fig 6

*cinereus asy.* *Strophorus cinercladytes* Fitch 1<sup>st</sup> Rep. 144 Tr NY S Ag Soc. vol 16. 1853. p 848

ashy plume

Hab N.Y.

Ins. (N.Y.) July in yards near dwellings 0.75 expanse  
 0.75 Dark gray, fore wings speckled with blackish brown  
 along & belly towards inner margin &c.

*lobus a lobus* *Strophorus lobcladytes* Fitch 1<sup>st</sup> Rep. 143. & Tr NY S Ag Soc. vol 16. 1853. p 848

Lobe mixed plume

Hab N.Y.

Ins fore wings blackish with grey towards basis, freckles with lemon  
 towards apex brown black. an oblique lemon yellow band ends in white on the outer margin  
 clefts apex outer lobe near the base & a white fringe apex of outer margin &c

*reticulatus reticulatus* *Strophorus reticulcladytes* Fitch 1<sup>st</sup> Rep. 145 & Tr NY S Ag Soc. 1853. vol 16. p 849

Cloudy plume

most common Sp. (N.Y.) mid June to mid July near dwellings  
 & attracted by lamps.

Ins. milk white, fore wing clouded with pale lemon brown alar expanse 1 inch  
 brown of hind wing upper surface of fore wings coincides with the whitens of the upper surface

creta  
 chalk

*Strophorus cretcladytes* Fitch 1<sup>st</sup> Rep. 145 & Tr NY S Ag Soc. 1853. vol 16. p 849

Chalky plume.

with white tinged with lemon yellow & has a small brownish  
 black spot at the cleft & a brown streak on the outer margin  
 beyond the black spot (Expanse 1 inch) with traces of an oblique brown band  
 from one to the other, J. July (N.Y.) Fitch

prop. name

*Alucita* Scop. Westwood Syn. p. 115. "all the wings clouded"

? *Alucita*

Hab Colorado?  
 Ridings?

Insect taken in Colorado by Mr Ridings Phil.  
 Larva of European? not hairy spins a cocoon Effects in unopened buds of Honey suckle

Ins pl 54  
 fig 13. coll Ent Soc  
 Phil

*Alucita* (Europe) frequents gardens & enters autumn seedlings with its beautiful fan like wings  
 I never saw to live in bud & under go their transformations in this  
 to and from cocoons &c or 51

*Anarsia Zeller* Dr Acad Nat Sci Phil 1889/1890 *Anarsia Zeller* *Prunella Plum* } Ag Monthly  
 five wings coats concealed with an opaque } *Anarsia* (E. Zeller) } 1872-305-4  
 space on the outer - towards the cut of the } with figure (no French typography) Rep. 1872, 102  
 central nervous & the first subcostal marginal  
 branch, concealed also rather narrow cloud  
 and short narrow  
 Subcostal helps second wing thick with  
 a very abundant web of hairs, pro-longed  
 in front hind joint smooth slender  
 Proximal is long as the second  
 auxiliary helps short & distinct

$$\frac{4}{12}$$
  
 12

*Anarsia prunella* Dr Acad Nat Sci Phil 1889/1890  
 head & face pale  
 Subcostal helps  
 shall gray at  
 gray dotted line  
 Antennae gray  
 five wings gray  
 brown with a  
 along the cut  
 middle short  
 on the median  
 fold same or to  
 also fuscous  
 gray also gray, tinted with yellowish

*Paragrapta decorata*

f CXV. 8. *Undulus* coll

*Larva* taken from the full grown &  
 about to draw from on the limbs of  
 a plum - head black, body knobby  
 reddish brown, with irregularly  
 each ring one to a half tenth pale  
 brown patches on the side of 3d & 4th  
 segments, shield terminal prolegs  
 black, the specimen had secreted itself  
 under a turned up portion of the cloth  
 of the trunk the cocoon was scarcely  
 eight the tail of the pupa is attached to  
 a little ball of silk, pupa oval,  
 also short, conical smooth color dark  
 reddish brown

I heard of a similar worm in the  
 would not procure one to compare with the  
 are also said to be found in the sugar  
 Manatee, but are not very numerous.  
 into the cane in the manner as figured but  
 how it can be known

108/3 ?

practical sugar p  
 gations Report to the office of the Sugar

*Diabroa Sacchari* Rev. J. G. Laidlaw Guadeloupe  
 St Vincent memoir. on insects injurious to sugar  
 can. nat. Soc. Guadeloupe in Guadeloupe 1850  
 Borneo moth is "by far the most destructive &  
 common enemy to the sugar cane, which is  
 never exempted from this pest. The bore worm  
 causes the greatest injury to the cane after  
 a rapid growth which is followed by a spell  
 of dry weather - which is indigenous to Guadeloupe  
 or at least is now one mainly known to  
 injure sugar cane. The system of breaking & top  
 keeping the cane clean is the best method  
 of the cane as well to prevent the spread of  
 of the bore or as to improve the juices  
 the removal of all the loose trash from  
 the cane itself.  
 Caligulian yellowish spotted with faint black  
 dots, but a slight degree hairy  
 Mark, a small web, straw colored moth  
 covered with darker lines, transverse, only  
 the under wings are pale yellow (Gosse)  
 (The insect given by Mr. Guerin memoirs of Paris  
 as the true *Diabroa Sacchari* is more of  
 a crab or stow color.) 74

"The rev. L. Gudding (England) described an insect  
 name of *Diabroa sacchari*, being by far the most  
 which is never exempt from this dreadful pest.  
 Indian islands destroy whole acres the larvae  
 however, identical with *Phalaena sacchari*

## List of specimens named &amp; figured but not placed.

main-  
axilla along or short hairs

*Acocena* (Treitsch)

Germ.

*Angyrotoma* (Hob)

Nath. In Ent 2. 95

L. bores into unexpanded flower buds especially of mus roses till nothing is left of them but a mere shell

Anars

expansis flabris *Campitogramma* <sup>6th</sup> *fluvata*? coll of Mr Sanborn.

? *fluvata* a drawing or letter  
fluvata deep in water  
or river

Larva feeds on *Umpelopsis quinquefolia* Sant.

In fig 48  
fig 16 coll of Mr  
Sanborn Man

Hab Mass. (Sanborn) Can. Saunders

Germ.

? deriv  
fungorum of fungi

*Chaptalia*? *fungorum* J G & K, Am Ent Soc. 2. p. 200 fig 3 fig 14

In fig 64  
fig 15. Md. 26.

Hab Atlantic ant. (G & K) Ma 29.

In fig 97  
fig 36. fm G & K, fig.

expansis obliquity  
or a slanting direction  
boreu. bringing to the north

*Carsia* <sup>H</sup> *boreata*

In Sp. fm N Hamp. coll of Mr Sanborn (Man)

In fig 94  
fig 3. coll of Mr Sanborn  
N.H.

Hab N.H. (Sanborn).

? deriv

*Cindaphnia* *bicoloralis* Guen?

bicolor two colored  
Hab Ma.

In fig 20

fig 13. Ma Sep

In fig 57

11 Mre.

? deriv  
*Saccharum*  
of the sugar cane

*Lixinea*? *sacchari* Guiding

Westwood. vol 2 p. 411

(Rev. Can. clous)

Guiding Trans Soc Ent vol 46. p. 143.

*Phalaena* *saccharis* Fab Ent Sys. vol 3. part 2. p. 238.

Sugar cane borer

Larva burrows into the centre of the stems occasionally destroying whole acres The larva figured was sent from Louisiana I described as very destructive to the cane in that region Dr Insect figured was presented by Mous. Guerin Menneville of Paris. who received it from the Mauritias.

Lar. fig 44  
fig 12. La.

In fig 55  
fig 11. Mauritias

Hab. La.

Mauritias West Indies

food plant Sugar cane

belongs near *Crambus* (West)?

?

*Diatraea*?

Larva very destructive to maize in low lands (S.C.) it bores into the stalk generally & is sometimes found in the ear

L.P. 9 fig 17  
fig 2.

Hab. S.C. (29)

Food plant Maize

*Cypripedium* *puberulum* March 1870  
 { March 1870 Bad for Nat Hist  
 1870  
 Am Ent Soc. L. 205

Larva has curled lateral appendages

Little plant with white? Rely. H. S. Ford Soc.  
 destroyed by *Sigalphus caeruleus* 1870  
 egg of *Emilia pumilio* 1870



P. 1st time  
or eye or face?  
faintly visible  
and not a redish mark

*Dysops* <sup>(Germ)</sup> *futiles* G. & H. R. To Am Ent Soc. 2. p. 204 pl. 3 fig. 73 ♂

In pl. 97  
fig. 34. Ha. p. 348 fig.

Hab Fla. (G. & H.)

*Glyptodes* aff. of British Museum

In pl. 56  
fig. 7. Ha.

Hab Fla. (G. & H.)

*Lithacodia* <sup>new</sup> *bellicula* Hub. G.

In. not uncommon on borders of streams & ponds July London Can  
Saunders.

In pl. 44  
fig. 24. coll. of W. Mendenhall  
from Canada

Hab Can.

*Liposoma albolineata* G. & H. R. To A. E. S. 1. p. 28. pl. 2 fig. 22.

*Opadria funebrana* <sup>Deutschke</sup> To Ent. 2/79 European sp.  
L. feeds on interior of plums in England

In pl. 90  
fig. 15. G. & H. R. fig.

~~*Liposoma*~~ (Curtis), *Goniocladia furciferata* Pack?

"The males of this group are distinguished by their hind wings being furcated with a small lobe joining them the appearance of possessing an extra pair of wings." In pl. 42  
fig. 21. coll. of W. Mendenhall 24.  
H. & H. R. 2. p. 397. To Ent. 1. 122.

Hab N.Y.

No 303 a lobe  
appears heavy

? near  
albolineata  
white lines

(from Agass.)

*Opadria a. signi*  
brownish or  
blackish

*Samasia stephens*  
*prunivora* Walsh 1<sup>st</sup> Rep. Ill. 1868. p. 78 pl. 1 fig. 3

Pring Moors Rural N. H. 1878

Plum moth.

In. bred from black knot on plum trees from plum  
fruit - from gall (ulmivora) on elm & gall on leaf of red oak.  
Pupa formed in a cocoon of an elongate oval shape above ground

In pl. 97  
fig. 2. coll. of  
Mr. Riley Mo.

Hab Ill. (Walsh)

Found in Plum fruit & black knot & galls on elm & red oak.  
(galls, quercus frondosa, Hairy Crabapple & Apple. Riley 3<sup>rd</sup> Rep. 25.

See also above  
*Opadria funebrana*.

This insect is "closely allied to the European species *S. funebrana*, another species  
*Samasia* member and of Europe is supposed to feed on the inner tegument of the bark  
of Cherry & Apple trees & occasionally Laurel

(Tort. Gagn.) "doubtful as to whether it injures the plums" (Walsh)

*Stenopteryx* ? *hybridalis* aff. of Brit. Museum.

or *Stenopteryx* sp. H. & H. R.

*Memophila* - *noctuelle* S. R.

Hab Md.

In pl. 50  
fig. 18. coll. of Mr. Mendenhall.

or *Stenopteryx* solid  
very very  
hybrid or mongrel.  
(Tort. Gagn.)

? larva

larval - a term of misnomer  
or the fulfil of the eye

*Tholclera* *pygmaea* - Heller?

In pl. 57  
fig. 24. Ma.

Hab Md. Pa.

In pl. 77  
fig. 1. coll. Ent. Soc. Phil.

*Thysania* *zenobia* Cram. Am Ent. Soc. 2/340

In. taken by Prof. H. S. Sheldon at Emerald College  
Guineyport, N. H.



Larvae. figured but not fully identified or named

Note: where the perfect insect is also figured in a later plate it is distinguished by having a dark line under the number of figures on the plate on which the imago can be found. -

(Plate 2.)

c<sup>t</sup> Larva found on Oak Sep. Md. (prob. *Catocala*) Lar. pl. 2  
fig 8. Mo

Larva feeds on Oak Sep. Md. (rare) Lar. pl. 2  
fig 10. Mo

Larva feeds on Gum Sep. Md. Lar. pl. 2  
fig 11. Mo

Larva feeds on Pine Oct. Md. Lar. pl. 2  
fig 12. Mo

Larva feeds on Oak Sep. Md. (rare)  
Im - appeared May.  
Lar. pl. 2  
fig 16. Mo  
Im. pl. 64  
fig 16. May.

Larva found on Oak Sep. Md. (not very rare) Lar. pl. 2  
fig 17. Mo

(Plate IV.)

Larva Oak Dec. Sep. Lar. pl. 4  
fig 7. Mo

Larva feeds on Oak, Oct (Md) (common)  
prob. *Notodontes*. (Riley) Lar. pl. 4  
fig 7. Mo

Larva feeds on Cabbage Sep. Md. - Lar. pl. 4  
fig 11. Mo.

Larva found feeding on Grass & Clover Sep & Oct. Md. Lar. pl. 4  
fig 13. Mo.  
probably a bright variety of *Leucania extranea* or some *Leucania*  
see pl 98 fig 12.

(Plate VI.)

Larva found feeding on foliage of Cotton Oct. Geo. (Rare)  
FD Ag Rep. 1855 p. 103. Lar. pl. 6  
fig 12. Geo.

Larva webs up in leaf of Cotton Sep. Georgia  
resembles *Tortrix rosaceana*, see p. 138. Plate 16, fig 4 & 5.  
Lar. pl. 6  
fig 17. Geo.  
(168 page)





# Plate IX

Larva feeds on Oak July (Md.) (not common) Larva pl. 9  
fig. 6. Md.  
The insect is dilated at the end resemble somewhat *Acanthia aceris* var. *americanus*  
of Harris correspondence but my figures have only 4 pairs whilst that fig has 9 or 10 pairs if not more can you  
be mistaken? or not?

Larva feeds on Apple June (Md.) (not common)

Larva pl. 9  
fig. 15. Md.

Larva found on Oak June (Md.) (rare)

Larva pl. 9  
fig. 16. Md.

# Plate X

Larva abundant in the ends of Apple twigs Aug & Sep (Md.)  
I missed in the interior of the twig from the leaf downwards  
causing the end to wither & die - but was unable to rear the imago

Larva pl. 10  
fig. 4. Md.

Larva found in webbed up leaves of Oak (Md.) Aug. (Common)  
? Imago. {this may be a mistake}  
also in my note book.

Larva pl. 10  
fig. 12

? Imago pl. 64  
fig. 7

Larva webs in & amongst foliage of Whortleberry  
in Aug & Sep. (Md.) (very common)

Larva pl. 10  
fig. 13. Md.

Larva found eating leaves of Cabbage Nov. (Md.) It is very  
subject to the attacks of a parasitical Ichneumon fly or to die in confinement  
I did not appear the following April.

Larva pl. 10  
fig. 16. Md.

Imago pl. 53  
fig. 19. Md.

# Plate XII

Page 169.

Larvae eat leaves of Oak Sep. Md.

pl. 11 fig. 13 is most probably the younger larva of fig. 12

Larva pl. 11  
figs. 12, 13. Md.

Larva one found eating foliage of Walnut Sept. (Md.)  
whilst the smaller fig pl. 11 fig. 15 was taken  
on Oak in August (Md.)  
so in note book may be mistake? Insect probably pl. 64 fig. 14.

Larva pl. 11  
fig. 14. Walnut Sep.

Larva pl. 11  
fig. 15. Oak Aug.

Larva found on Oak Sep. Md. (rare)

Larva pl. 11  
fig. 16. Oak Sep.

Larva found either on Oak or Walnut as these trees  
were close together when the specimen was shaken off  
when kept in confinement it refused food of either &  
did before changing into the pupa state.

Larva pl. 11  
fig. 18. Md.

Larva found on Wild Cherry Aug. Md. only specimen  
seen although all the wild cherry trees in the neighborhood  
were thoroughly examined (rare)

Larva pl. 11  
fig. 19. wild cherry

168. 169



Plate XII

Larva taken on Oak Sep (Md), gregarious but all died before completing their transformations. several were also reared from Count. but also could not be reared in confinement

Lar pl 11  
fig 21. Md

Plate XIII

Larva found on Oak May (Md) (rare.)

Lar pl 12  
fig 7. Col. May.

Larva taken on Bramble May (The only spec seen, Lar pl 12  
fig 8

Young Larva taken sheltered under Oak bark Dec. (Md) in the spring it feeds on young buds, the older larva was taken in June feeding upon the mature foliage

Lar pl 12  
fig 11. 12 Oak Md

Larva taken feeding on Bramble in Sep. Md.  
Inst. probably pl 57 fig 20.

Lar pl 12  
fig 14 Bramble. Md

? Lar pl 54  
fig 20.

is *Helia comaculata phaeola* Guén  
The young larvae were taken under Oak bark in Tang Md  
Feeds on the young buds in April  
Imago appeared in June.

Lar pl 12  
fig 16. 17.  
3 Inst pl 57  
fig 19  
June? 2000  
fig 20 In. common Md

Larva feeds between the leaves of Locust in <sup>June?</sup> July (Md), (Common) Lar pl 12  
feeding upon the interior (but forms no case like *Nephrolepis nebula*.)  
Pupa formed in the webbed up leaf. fig 20. Md.

Plate XIV

Larva all probably the same as <sup>Aug?</sup> *Helia comaculata phaeola* Guén (Common) Lar pl 12  
it is a dark web at the end of the detached leaves of Oak. fig 21. 22. Md.  
Solitary.

Larva found in a web in a withered leaf of Oak Sep. Md, (rare) Lar pl 13  
Mr Saunders of London Ontario Co Canada states that this Larva  
also frequents Beech in Can. fig 5 Md.





*Larva* found a larva web between leaves of Oak Aug. Md. Lar. pl. 13.  
(rare) fig. 7 Md.

*Larva* found on Birch Oct (Md.) only one seen. Lar. pl. 13.  
probably plate-pteris see Newman fig. 4 p. 207 fig. 8 Md.

*Larva* taken on Oak, Sep. (Md.)  
{ Specimen most probably has lost several tufts of hair  
{ but it only has one tuft when found. as figured Lar. pl. 13.  
fig. 9 Md.

*Larva* taken on Whortleberry Sep. (Md.) (rare only one seen) Lar. pl. 13.  
fig. 11 Md.

*Larva* taken on Oak Sep. (Md.) (only one found) Lar. pl. 13.  
resembles pl. 13, fig. 11, but has no striae on head &c. fig. 12 Md.

*Larvae* taken on Oak Sep & Aug Md. (common) Lar. pl. 13.  
also on Beech, Canada. (Saunders notes) figs. 15, 16. Md.

*Larvae* taken on Oak Sept. Md. (very common) Lar. pl. 13.  
also on Beech in Canada (Saunders notes) figs. 17. Md.

*Larva* taken on Oak Sep. (Md.) (only one taken) Lar. pl. 13.  
fig. 18. Md.

*Larva* found on Oak Sep (Md.) (only one taken) Lar. pl. 13.  
fig. 20.

*Larva* on Oak Aug (Md.) closely resembles Lar. of  
*Heterocampa obliqua* pl. 13 figs. 26 & 27. Lar. pl. 13.  
fig. 21.

*Larva* Oak, Sep (Md.) { caterpillar not  
Ins. appeared the following May. { uncommon Lar. pl. 13.  
fig. 23. Oak Sep.  
Ins. pl. 14.  
fig. 20. May.

*Larva* taken on Oak Sep. Md. (only spec. seen) Lar. pl. 13.  
The figure of a similar caterpillar was sent by Mr. Entine of Albany fig. 23 Md.  
N.Y. who states he found it on "Hollow" in Md.

*Larva* found on Walnut Sep. (Md.) (only sp. taken) Lar. pl. 13.  
fig. 24. Md.

only one. *Larva* on Oak Sep Md. Lar. pl. 13.  
fig. 25. Md.  
(169)



Larva fed on Rose Turkkill Landing Md. Oct.

Lar. pl. 14  
fig 7 Md.

Larva found on Plum tree Turkkill Landing Md. Oct.

Lar. pl. 14  
fig 8 Md.

Larva. taken feeding on Smartweed in Aug (Md) (only one seen) Lar. pl. 14  
fig 9 Md.

only one Larva taken on Smartweed. Aug. Md.

Lar. pl. 14  
fig 6 Md.

Larva taken near Washington D.C. several of these caterpillars were found in the woods but the person who brought them could not tell what tree or shrub they were found upon. in consequence they refused to eat any of the leaves of various forest trees that were offered to them. I at the searched for diligently since in the same woods none have been taken since. until 1857 when Larvae pl. 14 fig 20 were taken on the Fringe tree. Md. Sep. I resemble this very much

Lar. pl. 14  
fig 8 D.C.

One Larva taken on Oak Sep. Md.

Lar. pl. 14  
fig 10 Md.

Several larvae were taken one year on Persimmon in Washington D.C. - none found since then.

Lar. pl. 14  
fig 12 D.C.

Larvae fed upon foliage of wild & cultivated grape in Aug - Md.

Lar. pl. 14  
fig 15 Md.

one Larva taken in Georgia on 'Pride of China', and others in Md. Sep. feeding on the Whortleberry.

Lar. pl. 14  
fig 16 Geo.

Lar. pl. 55  
fig 7 Md.

Larva taken plentifully some years on Locust in Sep. (Md) when fully grown it is much larger than the fig

Lar. pl. 14  
fig 17 Md.

Larva taken on Apple. Md. in Aug

Lar. pl. 14  
fig 20 Md.

Lar. Aug. Florida food unknown

Lar. pl. 14  
fig 22 Fla.

B <sup>15</sup>/<sub>12</sub>.

A multitude of these caterpillars were found upon the sand bar two S. <sup>15</sup>/<sub>12</sub> g. When the branches were shaken the irregular snoutpods itself by a silk, & is thus enabled to descend to the ground where it suspends its cocoon to any shrub branch or leaf that may chance to be underneath the tree sometimes, altho not so often, to the top of the bare tree. This cocoon is shaped somewhat similar to a Florence oil flask. It has a neat round opening underneath, answering to the neck of the bottle. The striking peculiarity of this cocoon however is, that it is formed in regular inches into a fishing net, & amount as regular as lace work. It suspended by one single strong thread about three quarters of an inch in length, swinging to and fro in this or that homocoe, the caterpillar casts its skin & changes to a chrysalis of a yellow color, spotted with orange and black. The chrysalis is always placed with its head upwards & comes out through the top of the cocoon so that the funnel shaped bottom opening has nothing to do with the exit of the moth, some of these chrysalids were furnished with two singular knotted horns or projections at the

340  
B <sup>15</sup>/<sub>5</sub>  
Found this caterpillar (June 11<sup>th</sup>) on the terminal shoots of an Olive in Calabassos Sta. after washing the leaves together with house silt to form a nest they pressed downwards rubbing the leaves & devouring the *Phaenachytra*. The caterpillar is gregarious, several being found in one web (sometimes only formed its cocoon of silk interspersed with dry pieces in the web itself, whilst all the rest went into the ground to form their cocoons. - the first brood was accidentally destroyed before perfecting the web, but a second brood appeared on the same olive early in August and into the earth. It reappeared as the perfect moth August 24<sup>th</sup>.  
The terminal shoots of the olive were entirely destroyed by this insect.  
Note. the prior posterior larvæ 2<sup>d</sup> shed, or of a yellow color. See webbed 202. Tortricidae? or 205. *Spionemachia* 202.  
A smaller moth of a similar color but distinguished by its eye or more, gold or lighter spots on the upper wing came from the same lot of caterpillars but was not so notably reared, before being figured. was in web the moth?



## Plate XIV.

Larva found in the stem of Great ragweed Sep. Md. Lar. pl 14  
most probable - larva of *Gortyna*? fig 25. Mo.  
see p 99.

Lar. food unknown Ind. Sep. Lar. pl 14  
fig 24. Mo.

Larvae taken in the seed pods of Groundsel creper  
feeding on the seeds Florida Dec. Lar. pl 14  
fig 25. Fla.

Larva web the end shoots of pine together. Fla. Dec.  
These webs are generally covered with grains of dried straw.  
Form unsightly bunches at the end of the branches. Lar. pl 14  
fig 26.

See also pl XVIII fig 15. from Maryland.

## Plate XV

Larva found on a mild Leguminous plant Florida Aug. Lar. pl 15  
probably a sp. of *Pycna*. fig 2. Fla.

Larvae found flat oval cases, somewhat pointed at each end  
resembling small dirty looking Melon seeds, in which they reside  
& crawl or drag about whenever they go. These larvae were LPS pl 15  
quite plentiful in an old cellar at Tallahassee Fla. in July, creep- fig 3 Fla.  
ing down the damp walls. The only vegetable substances in the  
cellar on which they might feed were minute fungi on the wall.

Larva found feeding on foliage of Pokeweed (Thunbergia) Dec. Aug 22. LPS pl 15  
in a shelter by feeding the edges of (abundant) fig 4 Georgia  
silk, formed in the same curled up leaf  
larva in 10, 12 days.

feeding on foliage of Olive July Florida LPS pl 15  
(not uncommon) fig 5. Florida

in seed pods of *Crotalaria* S. Car. Oct. LPS pl 15  
in immature seeds, fig 7. S. Car.

on Magnolia July Florida - This larva  
in cocoons with open meshes, shorter somewhat  
at the narrow end downwards & suspended  
& broader externally by a single thread to  
This cocoon is so perfectly net-like that  
it is plainly visible in the interior through

LPS pl 15  
fig 12. Fla.

pl 15. fig 12 a somewhat similar cocoon  
is figured in Bates Nat on Anwaron  
p 413. where he says the moth  
belongs to the *Althoniidae* group of  
of Bombycidae, viz of a dull slate  
color.

" when the caterpillar begins its work  
it lets itself down from the life of the  
leaf, it has chosen by spinning a thread of  
silk the thickness of which it slowly  
increases as it descends, having given  
the proper length to the cord it proceeds  
to spin round its elegant bag, placing silk at  
regular intervals, connecting them at the  
same time by means of cross threads  
so that the whole when finished forms  
a net

a good loose web with quadrangular meshes  
of nearly equal size throughout, the  
sides are about the size of a sparrows  
egg, no food plant is mentioned

801)

487

## Plate XVI

Larva very abundant in 1868. on the Cat brier in Md. Aug  
these larvae feed in company. Sometimes completely covering parts of  
the plant, when being disturbed they fall to the ground.

Pupae formed under leaves & rubbish on or near the  
surface of the ground.

*Homophyralis tactor*, Grote. J. LXVII/22 Md

LPS fig 16  
fig 6 Ma.

? 3467  
fig 22. Ma

(*is Heliothis*) *marginalis* ~~not~~ *Orthocentrus notabilis*, see pl 61 fig 14. the larva <sup>is</sup> resembles *H. tactor*, desc  
Jan 1868 Larvae both found feeding on the foliage of the rose (cult?) LPS fig 16  
in N York. July. also taken in Md. (common) fig 9. 10  
Insect figured is from one of the larvae (not probably fig 10)

## Plate XVIII

Larva cat small holes in leaf of <sup>flower</sup> cotton in Geo  
but do little if any injury (common) P.O. Ag. Rep. 1855 p. 91.

Lar fig 18.  
fig 3. Geo

Larva when at rest resembles a dry brown withered leaf  
I was taken feeding on Sumach & on Oak Md Sep.  
(rare)

Lar fig 18  
fig 12 Ma.

Larva lives in and destroys the terminal bud of Pine  
Florida

Lar fig 18.  
fig 13. Fla.

Larvae form webs in the terminal leaves, on near the junction  
of young branches of Pine, these webs being covered with balls of  
wired grass can be readily seen but when disturbed the caterpillars  
back out of it, retreat & fall to the earth - this is probably  
the same insect previously figured pl 14 fig 26. from Florida  
(common)

Lar fig 18  
fig 15 Ma

Larva found in galls of *Pyrops Coccigera* Md

Lar fig 18.  
fig 16. Ma

Larva found on Willow Oak webbed up in leaf.  
(rare)

Lar fig 18  
fig 17 Ma





Larva found on Oak Sep. Md. not uncommon  
see likewise Pl. 19 fig 14. which this resembles somewhat.

Lar. pl. 19  
fig 7. Md.

Larva found on Hollyhock Aug Md. rare.

Lar. pl. 19  
fig 2 Md.

Larva. Took in leaves of Poison Oak Sep Md.  
(not uncommon)

Lar. pl. 19  
fig 3 Md.

Larva found on Oak Sep Md. & somewhat resembles 19, fig 1.  
Mr Saunders of Canada states that it is also found on Beech Can.  
Common.

Lar. pl. 19  
fig 4 Md.

Larva Oak Md. Aug. common. (Geom)

Lar. pl. 19  
fig 5 Md.

Lar Oak Aug Md. only one taken (Geom)

Lar. pl. 19  
fig 6 Md.

Lar Oak Aug Md. only one taken (large Geom)

Lar. pl. 19  
fig 7 Md.

Lar Oak Aug Md. rare.

(Geom)

Lar. pl. 19  
fig 8 Md.

Larva taken on Sassafras Aug Md. only 1/2 seen.

Lar. pl. 19  
fig 14 Md.

Larva taken on Fungus tree Sep Md. & must probably  
be the same as Lar. pl. 14 fig 8

Lar. pl. 19  
fig 30 Md.

[ Plate XX ]

minute cocoons found on the bark of Oak during  
winter Spring - Insect appears about May or June. Md. common.

Lar. Ins. pl. 20  
fig 29 Md.

Larva found on Vasey's apple Md.

Lar. pl. 20  
fig 30 Md.

Larva eats the leaves of oak together & devours the  
parenchyma Sep Md. (very common)

Lar. pl. 20  
fig 34 Md.

Ins. 108.

Larva lives in the webbed up leaves of Oak eats  
the parenchyma in Sep. Md.

Lar. pl. 20  
fig 36 Md.

11. *Amphispiza bilineata* (Linn.)

*Nepthopteryx* ~~undulata~~ <sup>°</sup> *undulata*  
Larva webs the leaves of Oak together in Sept. Md. &  
forms large brown hooked cases between the leaves resembling case pl. 26  
rams horns. in these cases the larva live & feed upon fig. 3. Md.  
the parenchyma of the leaves (common, Md.)

Larva webs leaves of Oak together in Sep. Md & eats parenchyma. Lar. pl. 20  
fig. 23. Md.

Larva found on Wild Cherry Sept Md. . I saw it appeared May  
but unfortunately escaped out of the box during the night Lar. pl. 20  
fig. 29. Md.

Plate XXXI

Larva taken on Apple leaves. Oct Md. not common Lar. pl. 21  
fig. 5. Md.

Plate XXXII

Larva found mining blotches in leaves of Locust  
Sept Md. Lar. pl. 22  
fig. 5. Md.

Plate XXXIII

Track of a leaf miner on Holly found by Mrs Adams  
D.C. in Aug.

Leaf V. Lar. pl. 73  
fig. 21.

Leaf miner in Oak. Aug Md.  
(prob *Nepticula Saginella*)

Leaf V. pl. 73  
fig. 23. Md.

Larva mines in leaf of Solidago making a blister like  
spot.

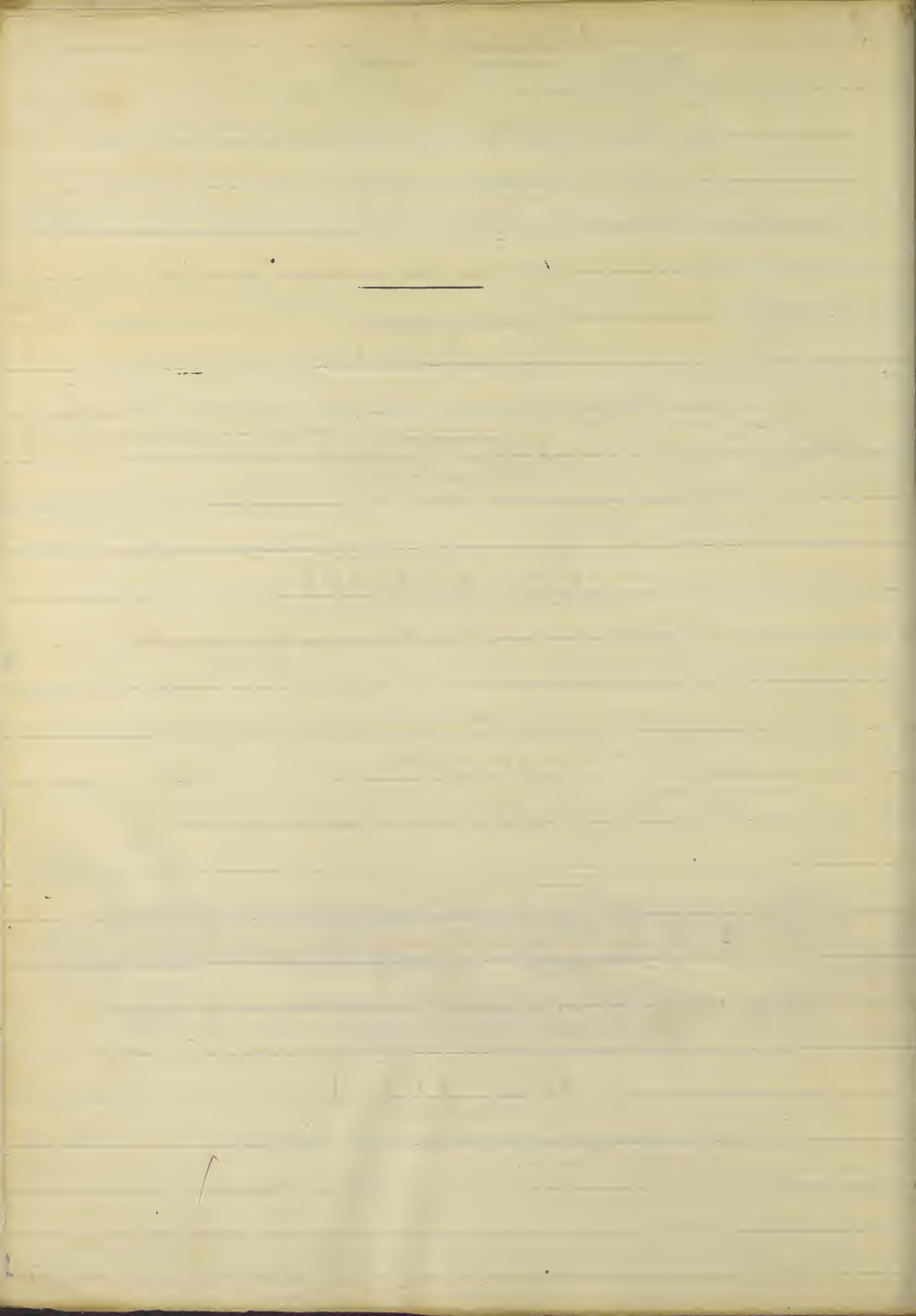
L.D.S. pl. 73  
fig. 20. Md.  
(171)

Plate XXXIV

Larva found feeding on the flowers of Golden Rod  
Sep. Md. common.

Lar. pl. 92  
fig. 12.  
Md.

& see over leaf.





## Plate XCIII

I see former page also.

Larvae found feeding on flowers of Golden Rod. Sep. Oct. Ind. Lar. pl. 42  
fig 14 Ind  
common

2. Larva taken feeding on Cabbage Sep. Ind. but both destroyed by a fungoid growth. Lar. pl. 92  
fig 18 Ind

## Plate XCVIII

fig 11. Larva in fruit of Strawberry. Sent to Dep. by Mr G Goodell Salisbury Burlington Co. Lar. pl. 98  
fig 11 Ind

The cocoons are formed of grains of sand cemented or spun together on the surface of the earth or under leaves & rubbish &c from 1<sup>st</sup> to 5<sup>th</sup> Aug. Ind.

fig 19. Larva found in matted up leaves of Elder DC by Mrs Adams Lar. pl. 98  
fig 19 Ind

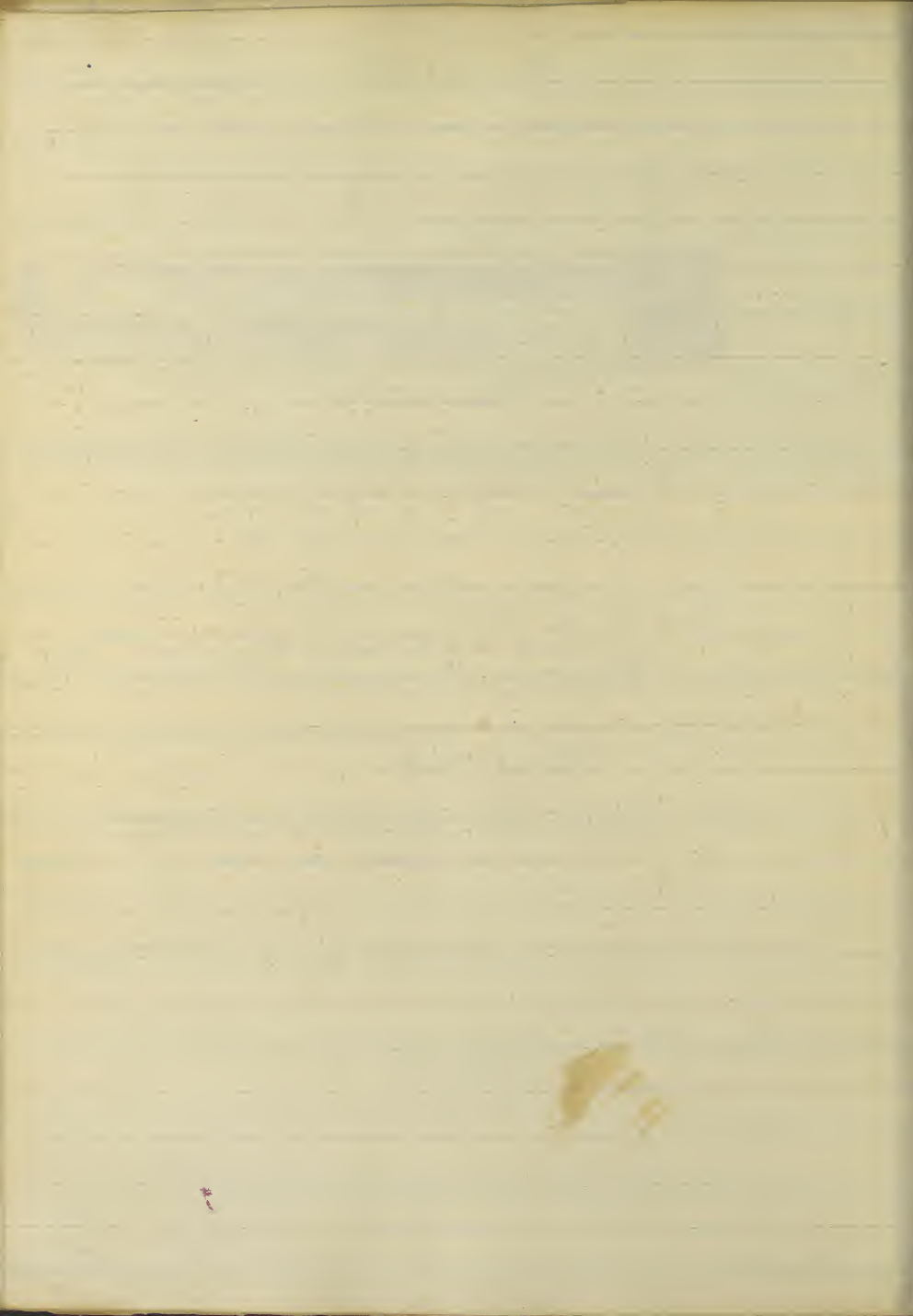
fig 20. Larva fed on Willow I may possibly have been sent from Canada by Mr Saunders in the same package of Willows sent with *Lycama Saundersii* The cocoon bears a great resemblance to *pl 84 fig 2*. may it not be the same? Lar. pl. 98  
fig 21 Can.

## Plate XCII.

fig 11. Lar of so called "corn bud worm" found Oct in green corn (maize) feeding in the same manner as *Heliothis armigera* sent by Mr Chapman Iowa Lar. pl. 99  
fig 11

17 Lar on oak. from Mr Lintner's colored drawing. Lar. pl. 99  
fig 17

18 2. ————— " " " " " " Lar. pl. 99  
fig 18





24

1870

11

11



## List of Insects figured but not yet named, or placed

## [Plate 20]

- fig 20 / 1 Md. Aug. *Amolita fessa* Guen  
 2 " " *Galgula fusa subfasciata* Guen  
 5 { see *Heterocera glaucoletta* H. CXVII. 4. Ins. }  
 (came out of an old acorn. Sep. Md.)  
 8. New York.  
 9. Md July.  
 12. Md Sep.  
 16. Md July. *Tephromides varius*

17. 18. 19. 20. Md July  
 22. 26 <sup>27</sup> fm Canada.  
 29 Acorn Oak bark Md  
 Jan'y to July

## [Plate 45.]

Fig 18. 20. 22. 26 fm New York also Meidinger Coll.

## [Plate 44.]

Fig 4 fm N.Y. coll of M. Grote  
 23. " Canada " " " Mr Nantow.

## [Plate 45.]

Fig 6 Canada Coll of Am. Soc. Entom. Eng.

## [Plate 46.]

fig 2. 11. 13. 16. all fm Coll of Mr Meidinger N.Y.

## [Plate 49.]

Eggs 11 & 7. Md June.

## [Plate 50.]

fig 4 { <sup>7. rare.</sup> 6 15. 16. 17 } → *Chelypharus maculosa* Leth.  
 fig 19. { *canophora* Clem  
 Md June & July plentiful attracted by lights

## [Plate 51.]

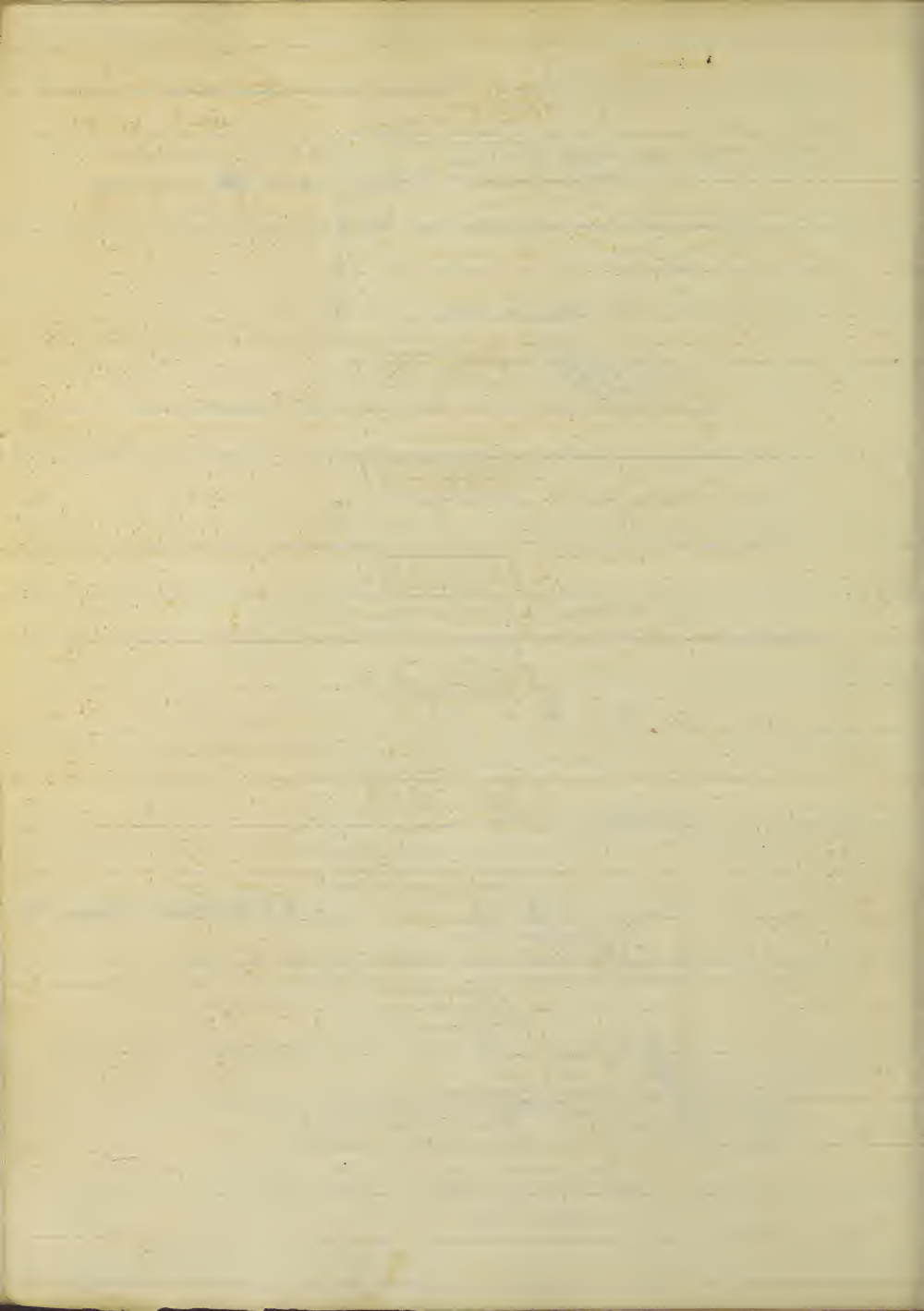
3  
 29. *Metoponia obtusa* H. 35. 9 & 36. Md. See also pl. 133 fig 13. - this common Md

## [Plate 55.]

see p 138 also

Ins. fig 7. { <sup>55</sup> *Metoponia malana* H. 35. }  
 Lar 14 fig 16 in Fide of China & Whortleberry (page 170.)  
 Ins 55/15 resembles somewhat *Madena miseloides* same plate?  
 Ins fig 19. from Larva on 5110. fig 16. fed on cabbage.

*Nolophanella* 94/14 Mas



*Anastrepha* Clem  
fig 1. Florida June  
" 14 Georgia Oct  
" 21 Florida

*Renca lefragei* Cr.  
fig 4 Fla Sep  
fig 15 Fla July

fig 11 Fla Aug  
" 16 Md & Fla Aug  
*Amolita fessa* n?

{Plate 57}

Ins pl 57/19. bred from Caterpillar pl 12 fig 16. 17. on Oak. Md. for ♀ see pl 60 fig 20.  
Ins pl 57/19 20 bred from Caterpillar pl 13. fig 14. on Bramble.

{Plate 58.}

figs. 3. 4. from Maryland.

{Plate 59.}

fig 9. same insect as pl 4. fig 9. Md.  
" 13 probably allied to *Pteropora*. Md. *Remigia hexastrea* Harvey

fig 6 *Periga xanthodes* Jek. {Plate 60.}

fig 4. 7. Ma } fig 9. same insect as pl 4. fig 9. Md.  
fig 13. Ma }  
fig 18. *Litosea convalesces* Lar ♀ } fig 20 ♀ see Lar pl 12 fig 16 & 17. on Oak.  
fig 18. *Litosea convalesces* Lar ♀ } *Pseudaglossa lubricata* Say, another ins fig 2. p. 57/19.

{Plate 61}

*Todea nufago* Stuhl

fig 7. Md Aug. } fig 12 Ma } 20 fm Hudsons bay  
figs 22 25 Ma } fig 27 fm Texas

{Plate 62.}

fig 2. 3. 6 Md. } fig 9. Hudsons bay.  
figs 10. 12. 15. 16. 18 25. 26. all from Maryland.

{Plate 63.}

fig 3. Maryland. *Anastrepha plenipuncta* Clem 43' 6 Mo  
*Anastrepha* Texas 85' 32

{Plate 64}

fig 4 Papa found webbed up in Thistle leaf Md June.  
fig 2. & 3 Ma May } fig 5. 6. Md June.  
fig 7. Larva figured pl 10 fig 12. on Oak Md.  
fig 11. Larva May. } 12 Md. June  
fig 13. 14 Md Oct. } fig 16. Ins May. from Larva pl 2 fig 16. Oak Sep Mo.  
fig 17. fm Ma May  
fig 19 Md May Thistle from Larva pl 11 fig 14 on Oak &c  
fig 20 Md May Larva figured pl 13. fig 22. on Oak.  
fig 22 Ma May  
fig 30 " ?

11

12

13

14

15

16

17



(Plate 65.)

351

Figs M. R. 6. H. P. M. 19. Allt H. 7 28  
all from Coll of Mr Panborn Mass.

(Plate 67.)

Figs 21. 22. Md.

(Plate 68.)

Eurygaster sticticalis Linn  
Figs 1. 5. M. - (17) (see also pl 84 fig 14) 20. 25. 26. from Coll of Mr Walsh  
Sulphurea belluani. G. R. 65/17 & Lophophanes laticincta G. 68/30  
Alinois

(Plate 69.)

LXXIX 8. {Phorcasophora mutabiliana Clem  
Hl

Figs 6. 7. fm. Euryg. Walsh coll. Illin  
" 9 from ulmicola gall Black Knot coll of Mr Walsh Illin  
Figs M. 10. 20. 24. 26. 29. 30. coll of Mr Walsh Illin  
41. 42. 44 45. 47  
68X/40 Deltima erythrina. Guen

(Plate 70.)

Figs 3. 5. 6. 11. fm Coll of Mr Walsh Illin  
" 14 Larva feeds on Oak Malsh. Same as pl 57. fig 3. Md.  
" 15. M. 17/18. 22. 25. Coll of Mr Walsh. Illin  
Memphitis (notarctia) Macchaboe St 36

(Plate 73.)

Figs 12. Taken A.C. by Mrs Adams.

(Plate 74.)

antepione sulphureata (Pab)  
Figs X. 2. 3. 4. 16. 17. 21. all fm Coll of Mr West Phil

(Plate 76.)

Fig 5. Colorado. Mr Ridings Coll.  
" 16. coll of Mr Ridings Phil  
" 18. Coll Ent Soc Phil.

(Plate 77.)

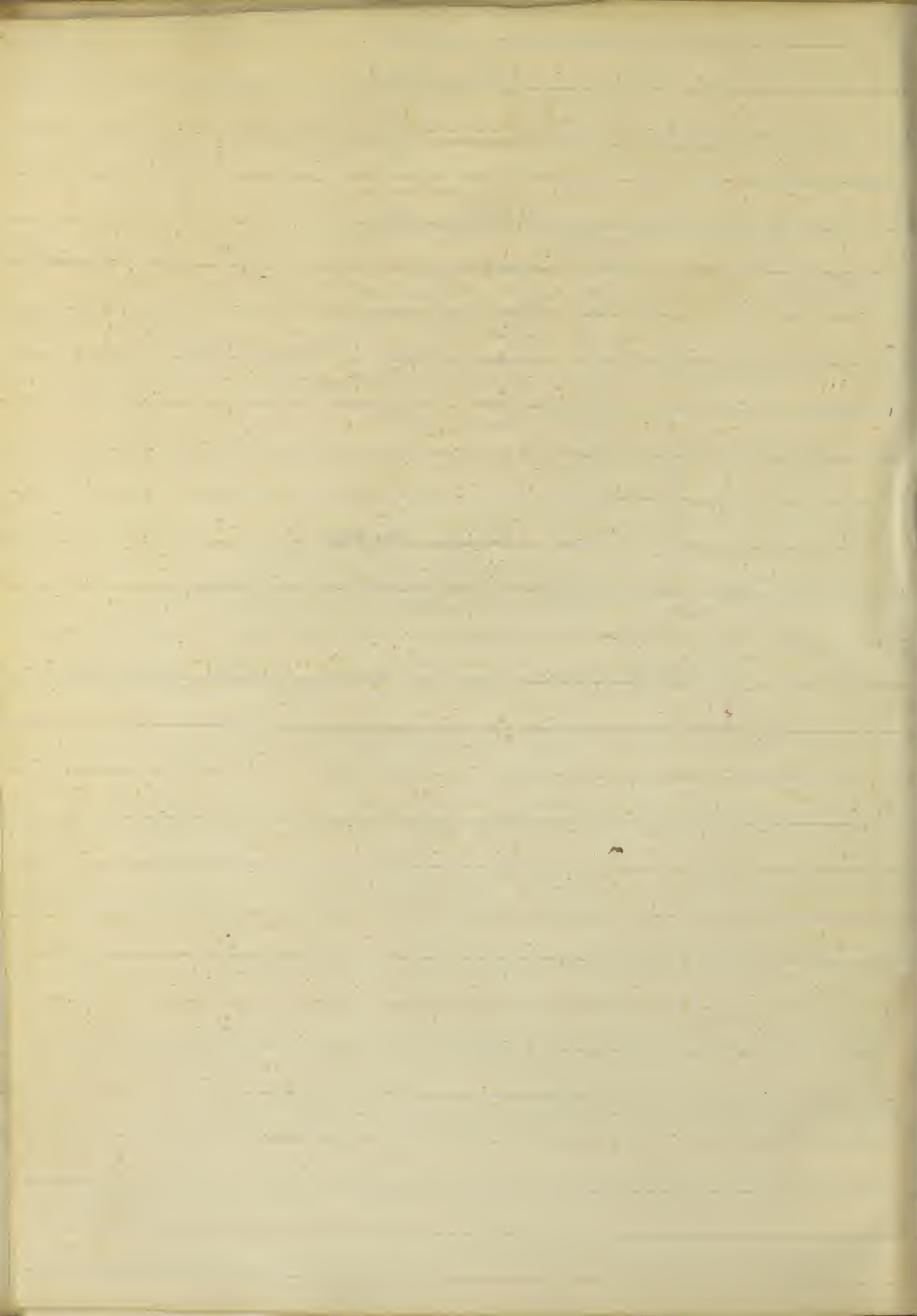
Fig 8. (11. Coll Ent Soc Phil  
Oligostigma alberta Pab  
19 Virginia Ridings Coll.  
20 Coll Ent Soc Phil  
33 Md.

Eurygaster sticticalis Linn Pl. 78  
75/5 Hl

175









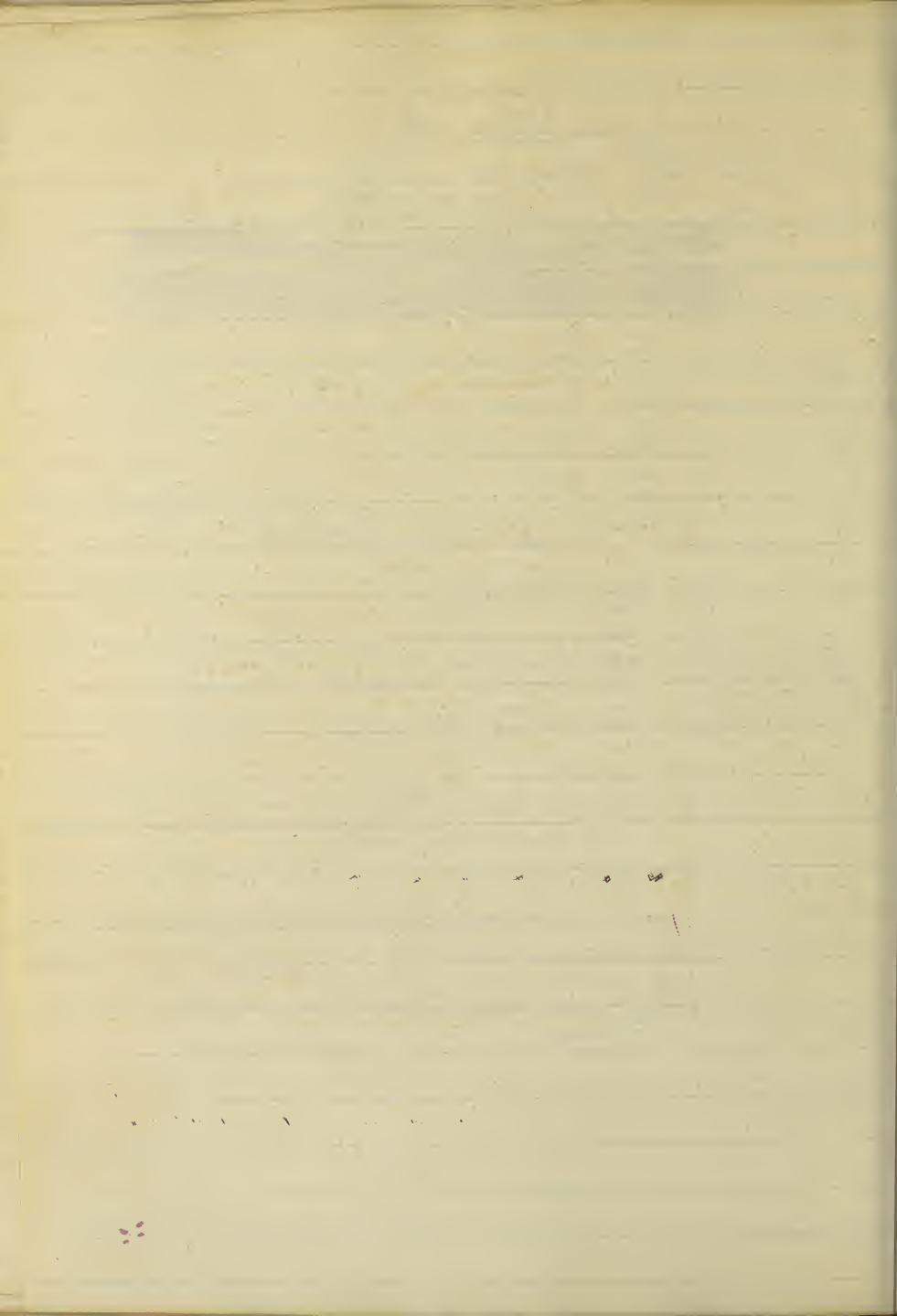
(Plate 84)

- Fig 1 <sup>Specimens number</sup> (507.) Ottawa Lacena vivis Can. Coll of M Saunders
- \* 2 (662) { 4 Cecoon. Larva feeds on Willow  
not uncommon London Can " "
- 4 (526). Ottawa Can. (See also pl 68 / 19 17. affinis) " "
- 5 (507) Ottawa Can. ~~Wane yet home~~ " "
- 7 (516) London Can. " "
- 8 (537) Ottawa Can. " "
- 9 (481) - in Quebec Can. " "
- 10 (512) Larva feeds on Oak June 20. Pup. 24. Im June 18. <sup>th</sup> " "
- 11 (516) London not common " "
- 12 (548) Kane Canada " "
- 13 (467) Ottawa " " "
- 14 (529) " " " "
- 15 So called Cayenne Moths from D<sup>r</sup> Lincecum Texas " "
- 16 from the number of specimens sent must be rather common
- 17 (466) London Can Coll of Saunders Can
- 18 (522) - " not common " "
- 19 (520) " rare " "
- 20 (454) Larva feeds on Pine Imago May 20. Can " "
- 21 (444) London Can not common " "
- 22 (466) Ottawa Can. " "
- 23 (550) London not uncommon " "
- 24 (471) - " rare " "
- 25 (551) - " " " "
- \* 26 (460) Larva feeds on Willow, This larva alters <sup>much in appearance</sup> so after each moult, that it has been described by Mr Saunders at three different times as 3 distinct Species " "
- 27 (464) London Can " "
- 28 (467) Toronto not uncommon " "

{ All the specimens (except 15216 which are from D<sup>r</sup> Lincecum of Texas)  
are from the collection of Mr Saunders. London Canada  
Those marked Ottawa are from the coll of Mr Bellings but sent by  
Mr Saunders.

V <sup>can</sup> Malis  
Cosmia <sup>orena</sup> Gu.

Caripeta <sup>\*</sup>  
angustiorata Woll.  
Hu also 96/11  
Caripeta <sup>\*</sup>  
divasata G



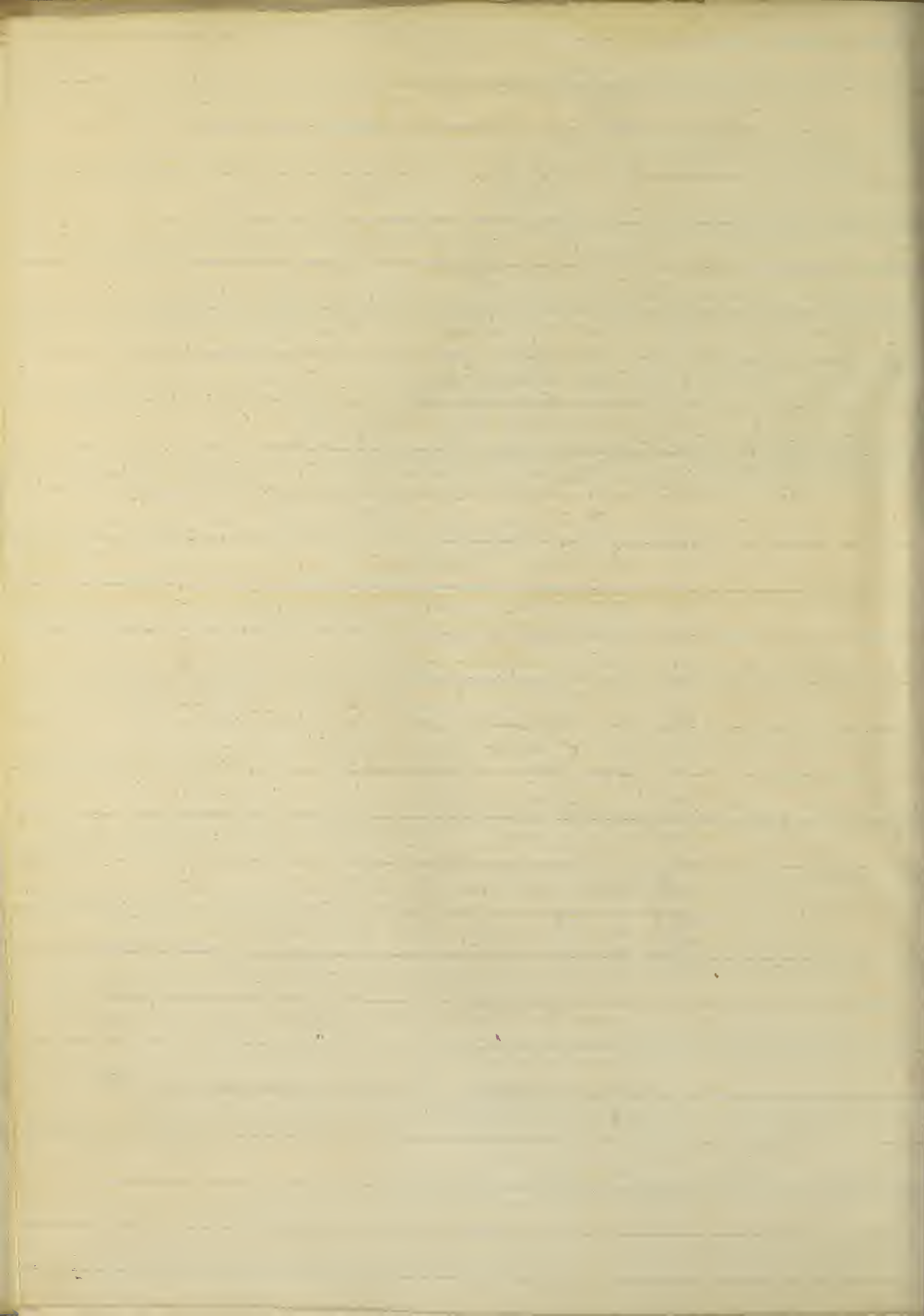
Procto number  
Saunders Coll.

Plate 851

1. 1366 Canada coll. of Mr Saunders  
2. 522. Grimsby Canada " " " "  
3. 1572. Canada " " " "  
4. 340. London " " " "  
5. 626. { Green Larva on Oak } " " " "  
{ Ins. mid July. Saunders }  
6. 572 London not common Can " " "  
7. 584 " rare. Can. " " " "  
8. 940 " " ( Ins June 7 " " " "  
9. 1573 " common. " " " "  
10. 490 Ottawa Can. " " " "  
11. 1888 ~~London Can.~~ " " " "  
12. - Species from Michigan  
13. 603 London Can. Saunders Coll.  
14. Specimen from Texas Dr Linnecum  
15. " " " " " }  
16. " " " " " } Tricopis hrysocentrus Dr Linn  
17. from Ottawa Can. Linconia perspicillata Hub.  
18. from Michigan  
19. from Texas. Dr Linnecum  
20. " " " "  
21. " " " "  
22. " " " "  
23. " " " " under side of 32.  
24. " " " "  
25. " " " "  
26. " " " "  
27. " " " "  
28. " " " " Tormas rubiginosus More  
29. from Michigan  
30. " Maryland  
31. from Texas by Dr Linnecum  
32. " " " "  
33. " " " "  
34. " " " "  
35. " " " "  
36. " " " "  
37. " " " "  
38. " " " "  
39. " " " "  
40. " " " "

41. } From Dr Linnecum Texas. in his notes he says "These are  
42. } the moths that came from the caterpillars which stopped  
the Hickory & Pecan trees in Texas." The same note  
was on all these three insects, are they merely varieties  
or are there 3 distinct Species destroying the Hickory & Pecan?

Specimens marked Grimsby are from coll of Mr Petit  
although sent by Mr Saunders, of London Ontario to Can





(Plate 86.)

fig 4 Specimen from Maryland same as pl 90 fig 11

(Plate 87.)

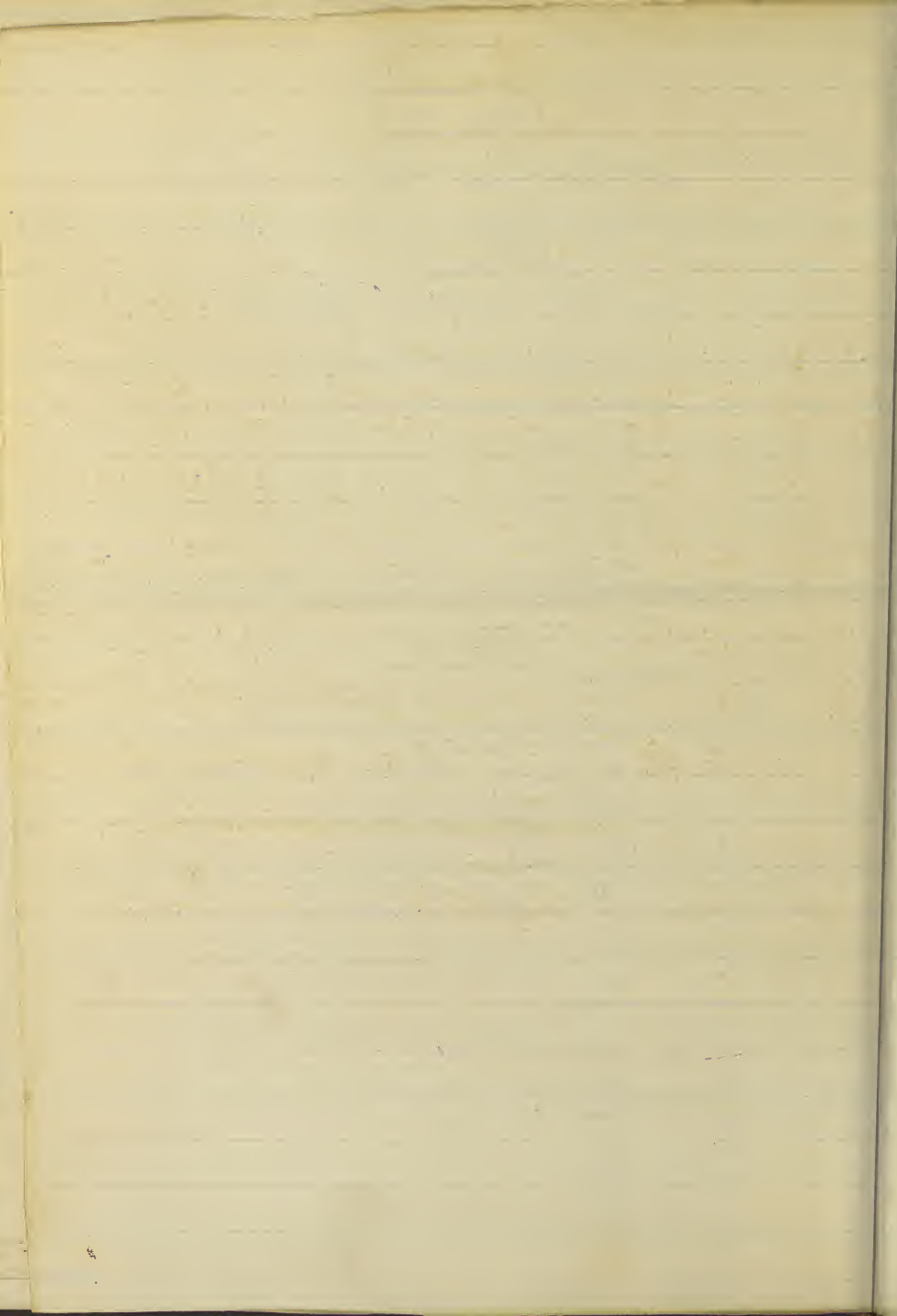
fig.	No. Saunders.	from	Canada	Saunders	Coll.
10	(399)	"	"	"	"
11	(400)	"	"	"	"
13	(573)	"	"	"	"
14	(572)	"	"	"	"
16		"	"	"	"
17	(404)	"	"	"	"
18	405	"	"	"	"
20	1589	"	"	"	"
21	388	"	"	"	"

all specimens from Mr Saunders. of London Ontario Co Can.

page  
179.

Plate 88

fig.	Saunders number	from	Coll of Mr Saunders	Canada.
1.	(392)	from	Coll of Mr Saunders	Canada.
2	(1632)	"	"	"
4		from	Dr Linacum	Texas.
6	395	from	Coll of Mr Saunders	London Ontario Co Can
7	1532	"	"	"
8	623	<i>Phragmites strobilata</i>	"	"
9	393	<i>Rhynchospora lacustris</i>	"	"
10	533	<i>Scleria desquamata</i>	Hub.	"
11	587	<i>Semolthisa</i>	erectata Pack.	"
12	98	<i>do</i>	<i>do</i>	"
13	551	"	"	"
14	535	"	"	"
15	586	<i>Semolthisa</i>	erectata Pack.	"
17	1620	"	"	"
18	1069	<i>Elyophora</i>	puberula Linn	"
21	397	"	"	"
22	398	"	"	"
23	1521	"	"	"
24	978	"	"	"
25	390	"	"	"
26	160	"	"	"
27	1591	"	"	"
28	49	"	"	"
29	402	"	"	"
30	1593	"	"	"
31	386	"	"	"



# { Plate 89. }

Mr Saunders coll

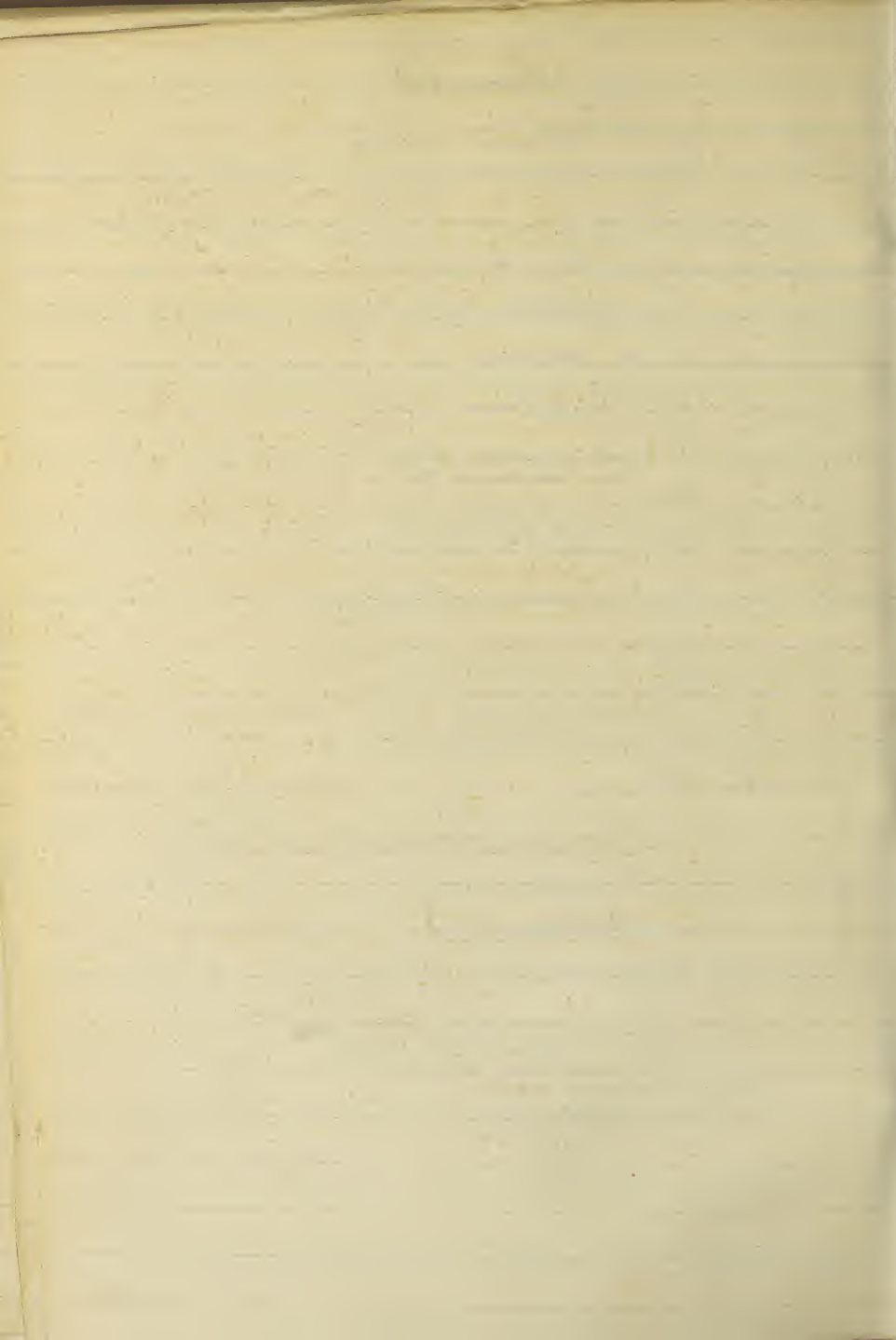
fig

1. 384. fm Mr Saunders. Coll. Canada
2. 305 " " " " Cordophora nigrescens, Lill 121
3. 108 " " " " Megachyta, decipiens, Zed. 1/4 in (99) 2
4. " " " " resembles M. 11. same plate
8. " from Coll of Mr C Dodge D.C.
9. 408 fm Coll of Mr Saunders Can.
10. 382 " " " " "
11. " Megachyta " decipiens, Lill resembles fig 4 same plate
13. 600 " " " " "
14. " from Mr Linicum Texas
15. " " " " " must be common from the number of sp. sent
16. 599. from Mr Saunders Canada
18. 395. " " " " "
19. " from Dr Linicum Texas
20. 597. from Mr Saunders Can.
21. " " " " " "
22. " fm coll of Mr C Dodge D.C.
23. 593. fm Coll of Mr Saunders Can.
24. " " " " " "
25. 1557. " " " " " "
26. 604. " " " " " "
28. 519. " " " " " "
29. 533. " " " " " "
31. 386. " " " " " "
32. " from Coll of Mr Linicum Texas (resembles pl 92 fig 7, somewhat)
33. 545. from Mr Saunders Canada
34. 1547. " " " " " "
35. 376. " " " " " " I feeds on Yellow Honeysuckle  
auth. Riley. - fm Mr Saunders.

# { Plate 90. }

fig 8 — from Mr Allan Crocker Kansas

11. " " Same as pl 86 fig 4.
14. " from Mr Allan Crocker Kansas  
Also fm Dr Palmer Chickasaw Nation
- ~~21. from Mr Crocker Kansas. 128~~
23. from Dr Linicum Texas.
25. bred from Chrysalis D.C.





( Pl 91. )

fig 11. fm Dr Lincoln Texas


( Plate 92 )

fig 1. 3. 5. 6. 10 from Coll of M Polier D.C. Aug  
 fig 7. fm Mr Wilson NY. resembles pl 89. fig 32. fm Texas.  
 " 8. " "  
 fig 11. " Coll of Mr C Dodge D.C.

( Plate 93. )

fig 12. fm Coll. of Mr Sanborn Mass. (fm Mount Washington)

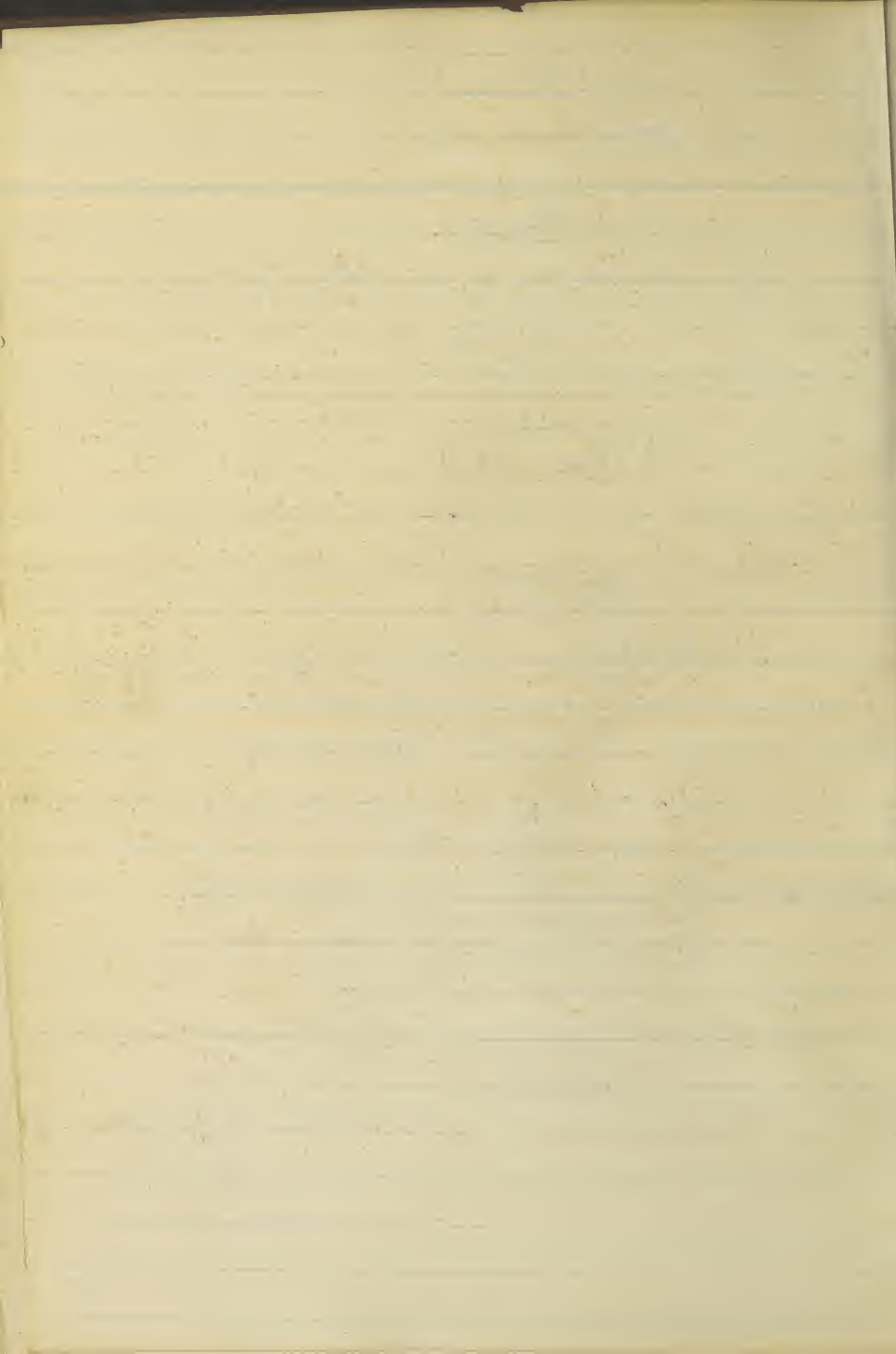
( Plate 94 )

fig 2. fm Collection of Mr Sanborn Mass. July.  
 " 3 Loc pupa & Insect - Larva lives in a minute case on the bark of Apple  
 Mass. Feb. (Sanborns Coll)  
 " 11 fm Coll of M Sanborn Mass.  
 " 15 " " " " Medford Mass. Sep.  
 " 18 " " " " " "  
 " 19 " " " " " "  
 " 21 " " " " " "  
 " 23 " " " " " " "  
 " 24 " " " " " "  
 " 25 " " " " " " " In Maple grove Aug.  
 " 26  "  
 " 27 " " " " " " " Medford. Sep.  
 " 33 " " " " " " "

*Mausmoteryx*  
*strenuata* *mauer*

( Plate 95. )

figs 1. 3. 4. 11. all from Dr Palmer Chickasaw Nation



# Plate 96.

Saunders mark.

Fig 1. — I.P. 1614 — fm Coll of Mr Saunders Canada

- |    |                       |   |   |   |   |   |
|----|-----------------------|---|---|---|---|---|
| 2  | 1574                  | " | " | " | " | " |
| 3  | G.B. 966              | " | " | " | " | " |
| 4  | 137                   | " | " | " | " | " |
| 5  | I.P. 1610             | " | " | " | " | " |
| 6  | Nova Scotia           | " | " | " | " | " |
| 7  | 208                   | " | " | " | " | " |
| 8  | G.B. 951. Nova Scotia | " | " | " | " | " |
| 10 | E.B. 366              | " | " | " | " | " |
| 11 | Nova Scotia           | " | " | " | " | " |
| 12 | G.B. 916              | " | " | " | " | " |
| 13 | 217                   | " | " | " | " | " |
| 14 | E.B. 242              | " | " | " | " | " |
| 15 | 163                   | " | " | " | " | " |
| 16 | 327                   | " | " | " | " | " |
| 18 | 312                   | " | " | " | " | " |
| 20 | 334                   | " | " | " | " | " |
| 21 | Nova Scotia           | " | " | " | " | " |
| 22 | 208                   | " | " | " | " | " |
| 23 | 166                   | " | " | " | " | " |
| 24 | 162                   | " | " | " | " | " |
| 27 | E.B. 258              | " | " | " | " | " |

Jas. A. M.  
Sept. 1841  
+ Jas. A. M.  
Toronto  
10/13. H.

(183)

# Plate 97.

Fig 1. fm Coll Mr Sanson Mex. (Count. Sep.)

- |      |                                      |
|------|--------------------------------------|
| " 11 | " Coll of Mr Saunders Can. (No 208.) |
| " 12 | " " " " " (No 146)                   |
| " 13 | " " Mr Riley - Mo. - Louisiana?      |
| " 21 | " of Mr Saunders Can. No 209         |
| " 23 | " " " " " (I.P. 1607.)               |
| " 26 | " " " " " (I.P. 1603)                |
| " 27 | " " " " " (I.P. 1601)                |
| " 31 | " " " " " (174)                      |
| " 32 | " Coll of Mr Solis D.C.              |

184.

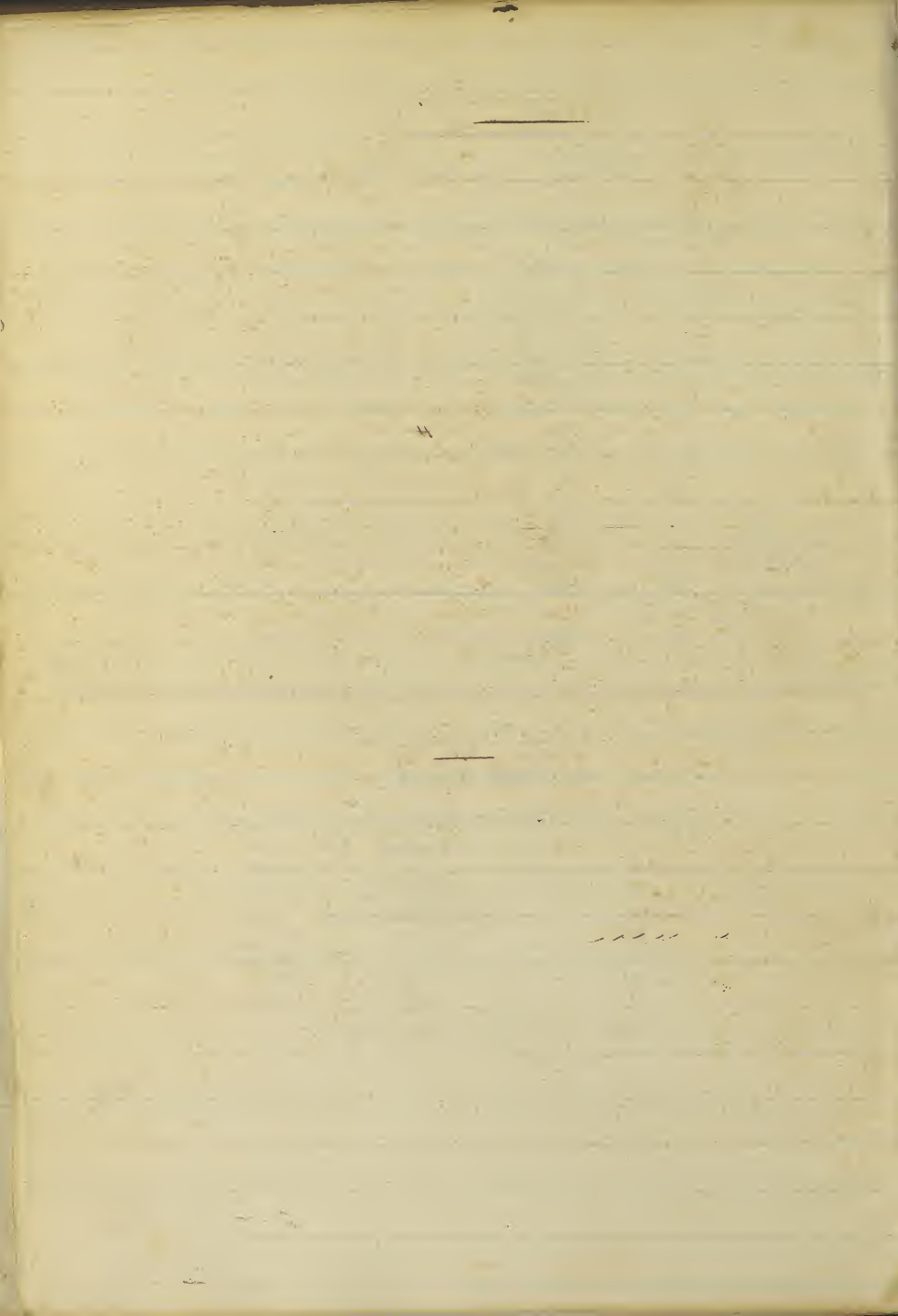




Plate 98

- |         |   |   |
|---------|---|---|
| 1. Ins. |   | coll of CR Dodge Count.                                 |
| 2. "    |   | cocoon on Apple tree bark — coll. of M Sanborn Mrs      |
| 4 " "   |   | L. said to destroy foliage of Cranberry<br>Dr G Goodell |
| 5 " "   |   | Aronia Dr Palmer  |
| 6 " "   | " | "   |
| 8 " "   | " | "   |
| 9 " "   | " | "   |
| 10 " "  | " | "   |
| 12 " "  |   | Count. coll of CR Dodge Sep                             |
| 13 " "  |   | NH " " " "  |
| 14 " "  |   | Aronia Dr Palmer.                                       |
| 15 " "  | " | "   |

Plate 99.

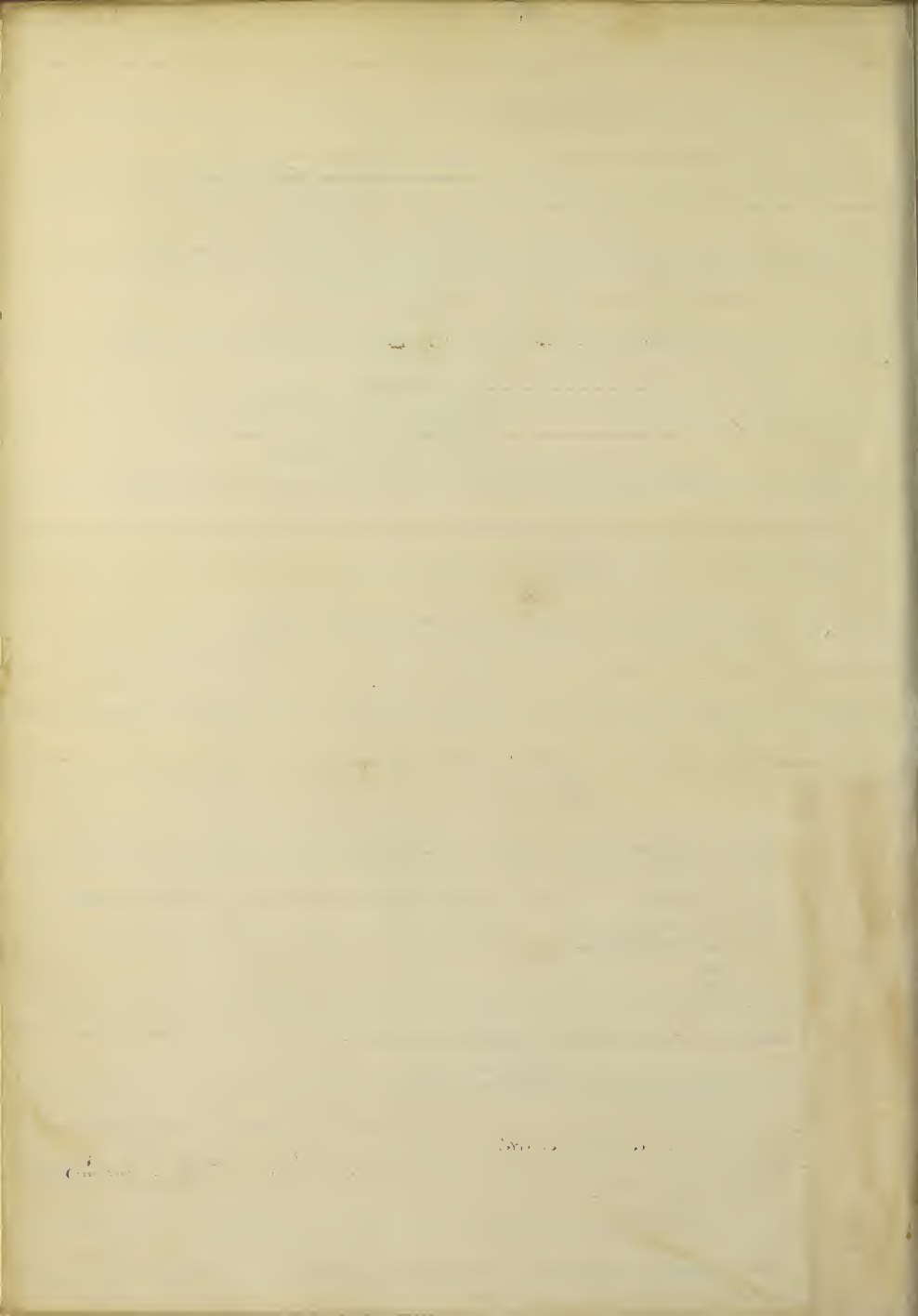
- fig 5. Ins                      fm Colorado by Dr Palmer
- |    |   |   |   |   |   |                    |                |
|----|---|---|---|---|---|--------------------|----------------|
| 8  | " | " | " | " | " | <i>Ceritholoxa</i> | Gr             |
|    |   |   |   |   |   | <i>incandescon</i> |                |
| 10 | " | " | " | " | " | <i>Ceritholoxa</i> | deduct to Morr |
|    |   |   |   |   |   |                    |                |

Plate 8.

- Fig 3. *Borda arizonae* & Mexico by Dr Palmer. 1869.  
 4 *Guamas sonora* near arizona " " " "  
 6 *Texas* border Arizona & Mex. by Dr Palmer 1869.  
 8 *Calais* " " " " " "  
 12 *attid. Thales?* " " " " " "  
 14 *?* " " " " " "  
 15 *?* " " " " " "

Plate. CII.

- |         |                                |
|---------|--------------------------------|
| fig 10. | from Dr E Smadit. South Calif. |
| 12      | " " "                          |
| 14      | from Rev R. J. Thomas. Illin   |
| 16      | " " " " "                      |



1	only one sp	1869	from Dr Palmer	La Paz	lower Calif	U.S.
5		"	"	"	"	"
6	{ rather common as there were several mutilate fr	"	"	"	lower Arizona	Mex.
9		"	"	"	"	"
10		"	"	"	"	"
11		"	"	"	"	"
12		"	"	"	"	"
14		"	"	"	"	"
15		"	"	"	"	"

Those marked Dr Palmer. from the borders of Arizona & Mex I may be included in the U.S. Lep. (Dr Palmer)

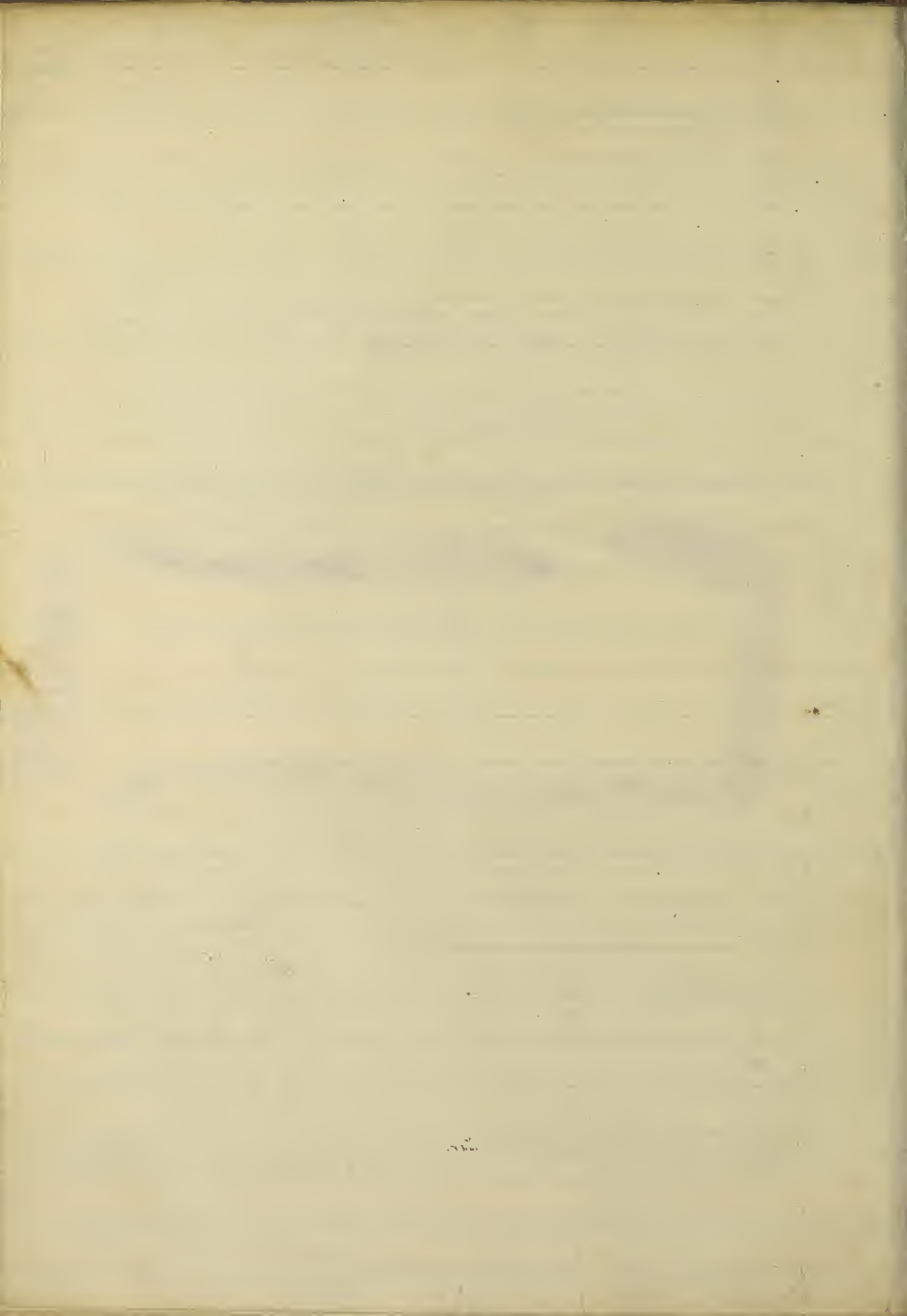
Pl. 104

1 found plentifully on Sycamore or Button Ball Mod. July  
webbed in leaves. pupa formed in webbed leaf  
This appears in about 10 to 14 days.

1. Larva found in the leaf of Tulip poplar. it doubles up the leaf generally at the midrib or along one of the principal veins, fastening it together with a silken lineas. it feeds upon the parenchyma causing the injured part to turn brown. When disturbed retreats into a narrow case or passage spun along the principal rib. The pupa was formed in a most singular manner. Cocoon. which is formed by cutting out a semi circle of the leaf on each side leaving but a very small piece of the leaf untouched in the middle so that when the two edges of the cut portion are closed together a sort of hammock is formed in the leaf. suspended by each end in a complete circular cut of the leaf. it is to be remarked however that all the two calypae find in confinement make similar cocoons in confinement no other leaves were found on the trees cut in a similar manner

Insect appears in about 10 days after the cocoon is made

5	Oak miner forms a blotch on the leaf of Oak July Mo	
6		from Mr Curtis Knoxville Tenn
7		" Dr C Smart South Calif
8		" Dr Palmer St Thomas Utah
9		" Mr. J Curtis Knoxville Tenn
10	Catocala see p. 115.	" " "
12		? Hab U.S.
13		from Mr J Curtis Knoxville Tenn
15		? Hab U.S.
17		from Dr C Smart South Calif.
18		? Hab U.S.
19	Gelechia cercidis	{ Larva green raised or lifted with web found on the sides of trees &c by Mr C Dodge or Red bird





2. (think) *Lemonias palmeri* of. Edwards, Mass. 3 spec. fm Dr. Palmer. St Thomas Utah  
only captured in the evening when resting on bushes.  
12 fm Sp in coll of Boston Soc Nat Hist. fm C W Belfrage Waco Texas.

## Pl. 106.

fig 4. No. 142. of Harris collection in Boston Socy of Nat Hist.

5 fm California - BSMC.

6. no generic name. but (?) *cinereus* of Pack. No. 746. of Harris coll in BSMC

7. No 247. Harris coll in Boston Soc Nat Hist

8. No 654 " " " " " "

9 fm Mr Sprague. (think on Apple)

10 No 653. Harris coll in Boston Soc Nat Hist

11. fm Professor Parker, Grinnell, Iowa. in BSMC

\* 15. fm Mr Sanborn Mass.

16 fm Mr Sprague Mass

17 " " " "

24. L. on Sycamore webs in leaf. Aug. (very pale green striped longitudinally  
Head & fore part nearly black.

27. Lar found by Mr C Dodge in Ohio on Dogbane. (Apoecynum) 26 Aug  
they appeared to be gregarious, many of them keeping near each other  
in confinement spinning webs over the leaves. cocoon formed in corner  
of box of rough gummy silk

## Plate 107.

2. fm Mr Sanborn Boston. 1870.

4 " " " " " *Therionia ferridaria* Hüb

5. taken in stone pupa 10 June in slight silken cocoon. Ins. July 2. P. Sprague Boston

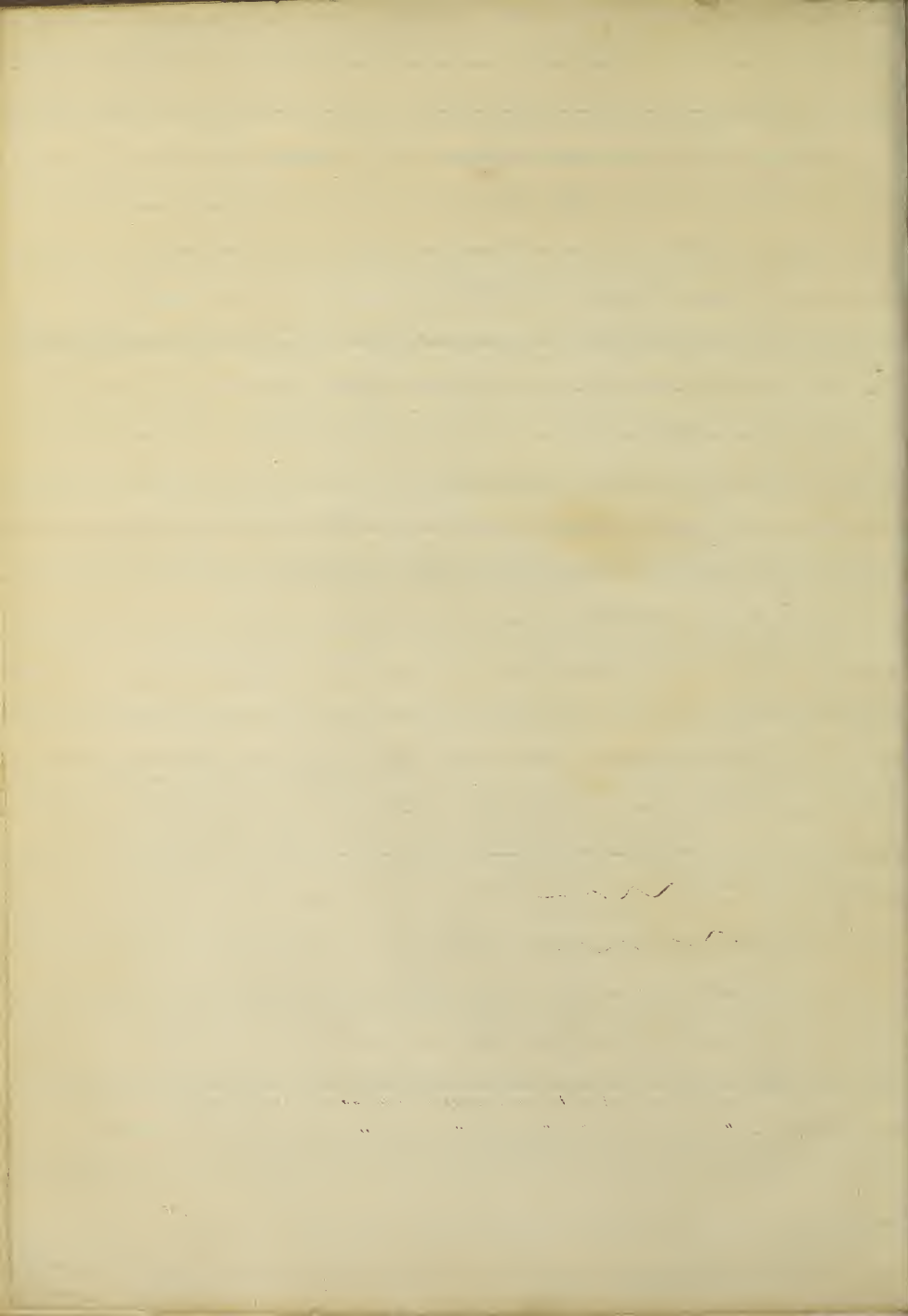
7. Fine Island beach on Golden Rod in Sep. by Mr Sanborn.

14. fm coll of Mr Sanborn Mass

15 " " " " "

17 bred Sep in the same box as Lar. pl 106 fig 27. on Dogbane. but cannot be  
certain as only one moth appeared all the rest hibernating as larvae in  
cocoon.

18 fm coll. of Mr Saunders. Lar. marked on Currant.



1. Imago
2. L.P.D.

(Lar. 20/34 (Coke Mo) In. June following.

{ I on *Arctia nudiflora* eats flowers 20th Apr.  
Cocoon formed while formed on side of breeding cage  
Pupa 5th May.  
In. 22 May

Lar color bright green dorsal longitudinal line darker. with a double line on each side head more of an amber color than are 2 black spots on the upper part of 2<sup>nd</sup> segment the caterpillar is scarcely hairy & the segments of body are of a yellowish color. when they join each other. the imago is of a shaded silver gray color shaded with a blackish color & the large black mark on the upper wing is formed by raised scales. M?

3. L.P.D.

Mr Burr. H. in terminal twigs of Peach burrow into wood & also eat bark, on young shoots. these insects were exceedingly numerous in May & June in the twigs of peach trees & almost invariably killed a few inches of the end of terminal shoots. — they are exceedingly difficult to rear. only one perfect imago being reared from more than a dozen larvae. — & can readily be found by selecting only such terminal shoots as have turned brown & have the leaves more or less withered.

L head shield black. body. reddish brown. —

Note this larva resembles Lar pl 10 fig 4 found in Apple

4 L.P.D.

L. found in young terminal bud shoot of Hickory. 7th May. & totally destroyed (M?) the interior pupa was formed in a cocoon of grains of sand woven together near the surface of the ground. — 4 larvae found of which only one changed into the imago L. brown head. darker.

6 In. Oligia Chalcodonia <sup>Hab</sup> sent by Mr. J. M. G. Bellfonte Pa.

9x " " " " Mr Saunders. Canada

20. " " " " U.S.

## Plate 116.

76 Larva feeds on Oak —

## Plate 117.

3. Larva feeds on Currant.

5. Insect from Mr W F Kuler. Mayport Florida

6 " " " " " " " "

11 This larva feeds in the interior of the stalks of *Peltandra virginica* or arrow arum a plant found growing in the marshes near Washington. almost every plant more or less affected by it. L. June 20. very dirty & filthy larva & difficult to keep. it makes so much moist dirt. Pupa was formed in a brown web. under ground the perfect insect came out in Aug & Sept.

13. Larva found June & July on Strawberry & whortleberry the Larva spun a loose web on surface of the earth. Aug. & the perfect fly came out in Sept

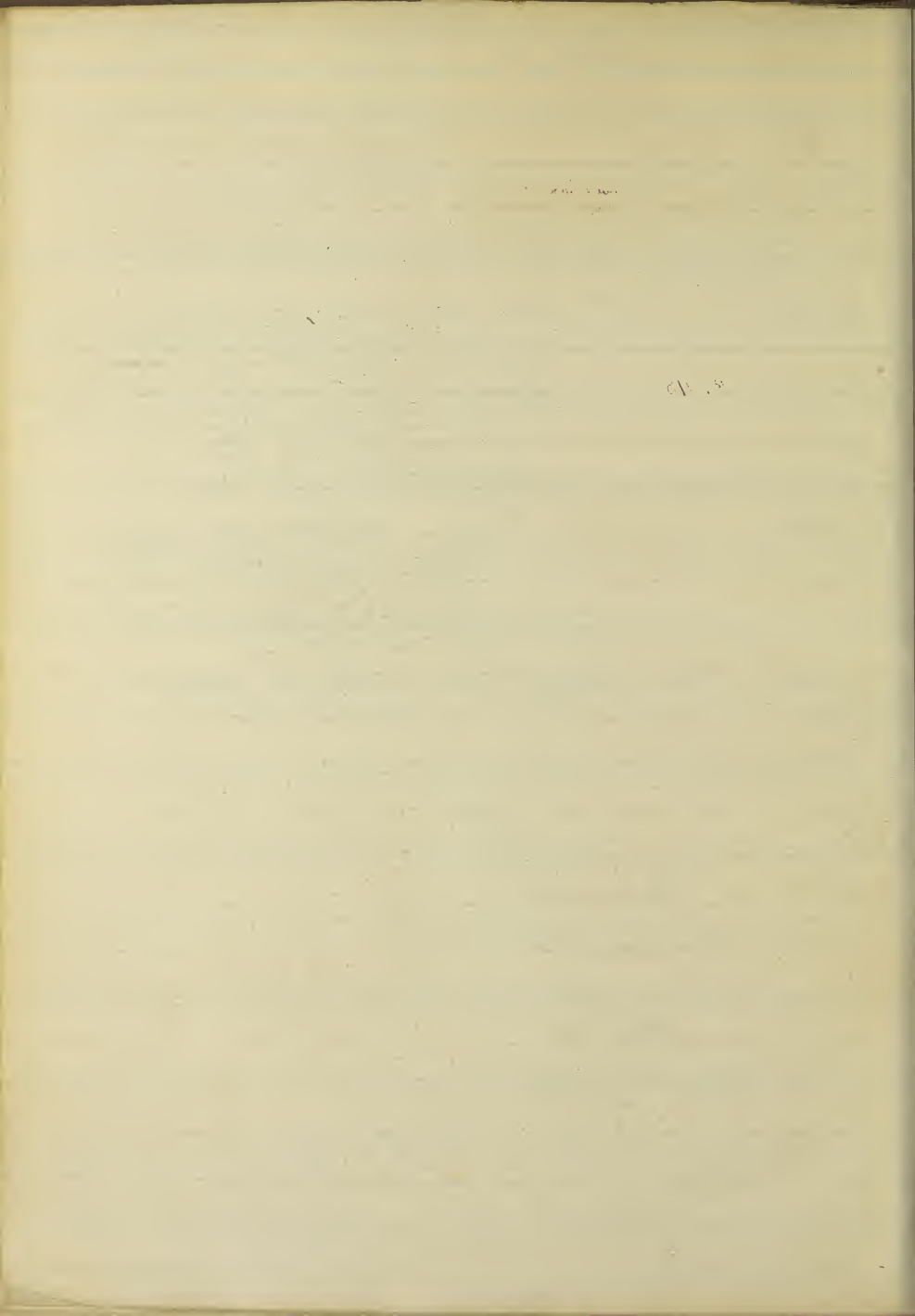


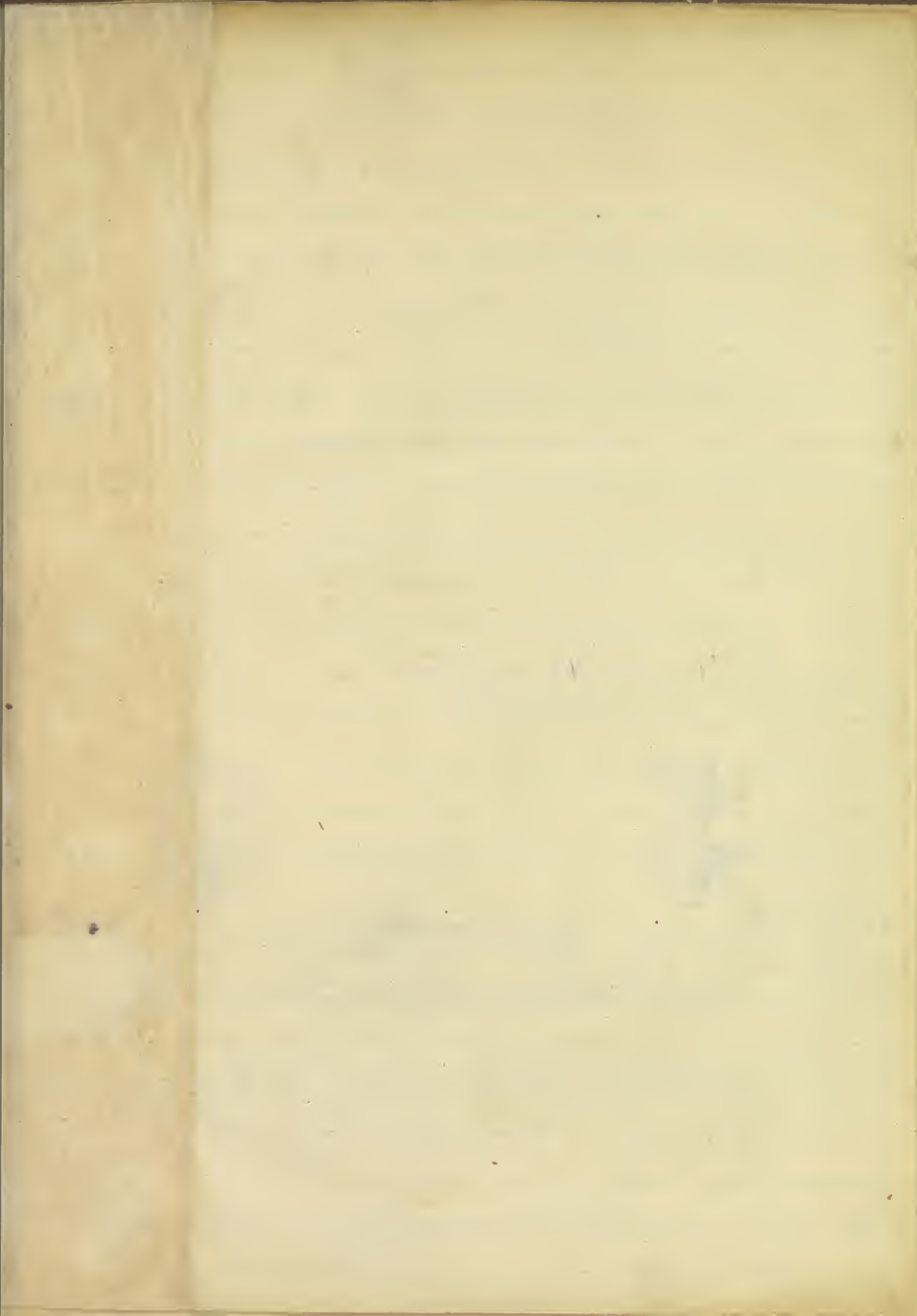


Plate 117 continued

- fig 15 L on Solibago Md. July 15. L dirty greenish head shield ~~black~~ black in terminal shoot top Solibago. ties leaves together & feeds inside on stalk & slightly hairy
- fig 16 L on Wild cherry May 7 Md. web between leaves cocoon in leaf head & first segment black. dorsal stripe darker slightly minute
- fig 19. L on <sup>claytoniana</sup> Osmunda ~~fragilis~~ Flowering fern 20 July Larva ties the extremity of the leaves together forms a hollow ball, in which it lives feeds & changes into the chrysalis the insects appears early in Sept. Calcequilar green with amber brown head & part of first segment. July 20

pl. 118

Chilo 126



Insects to kill.  
Moths &c

fire at night, or half an old sugar hoghead  
or any open vessel with a broad surface  
partially filled with water & a lighted glass  
lantern set on a block or stone in the centre  
the sugar hoghead <sup>alone</sup> attracts them by day also  
or wide mouthed glass bottles filled with  
sweetened water & vinegar

Am. Ag. 1862, 181

Lintner 1869. Lintner in manual up. 11.

Waut. Toz. *L.P. Homoptera ciliata* Pack  
Fall on plate <sup>Am. Nat. W.</sup>  
not figured 229

*Chorodes transversata* Walk. Pack. Min. Ag. Rep. 1870  
*Lanna nyctifolia* <sup>Am. Nat. W. 685.</sup>  
Curr. ant.

evening primrose

Xaut. semisecta

Waut. Geoplinea *incrassata* Collet.



where is *Badena* *Bmolani* where  
of *Distaloptera* see 162

*Agrotis incisa* p 103 where  
What is *ps* 60/20 is it a *pseudaglossa*? pl 97/32

*Desiderata. fm Saunders list Can.  
sent Jan 1890*

*Cymatophora campylaga*

*Leptina lateimicola*

" — *domestica*

*Diophris spectans*

*Microcelia setaridata*

*Aeronychia fasciata*

" — *leporina*

" — *acericola*

" — *unolatus*

" — *longa*

" — *decolorata*

" — *viridis*

*Balsa obliquifera*

*Mythimna decolor*

*Leucania straminea*

*diffusa*

" *insuetus*

" *multilinea*

*Nonagrion intrisecabilis*

*Gortyna flavago*

*Hydracra stramentosa*

" *legata*

*Nephelodes rubrolans*

" *signata*

*Xylophasia verbascoidea*

" *indocilis*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

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" *latitans*

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" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

" *latitans*

*Apamea madica*

*marginata*

*glaucoveria*

*dimissa*

*rubescens*

*velata*

*Calceana contrahens*

*Agnotis subguttata* *trunc*

" *testulata* "

" *spidra* *trunc*

" *tritici* *trunc*

" *obeliscoides*

" *funaria*

" *velata*

" *ononata*

" *neticens*

" *indirecta*

" *inversata*

" *illata*

" *obelica*

*Spolotes nuda*

*pyrophila*

*Graphophora angus*

" *libreans*

" *vicaria*

" *expansa*

" *lucunda*

*Orthodes Candam*

*Arctis anchoceloides*

*Danthia spurcata*

" *pratensis*

*Phlogophora periculosa*

*Eurus turbida*

" *occulta*

" *nubifera*

" *nubosa*

*Hadena chaenoprobii*

" *tenchifera*

" *contorta*

*Xylina contraria*

*Cucullia chamomillae*

" *flora*

*Aspila subflexa*

Some error in Correct

*Hedraea marginata*  
& *Orthocentrus instabilis*

~~Portia~~

Want. *Xylaria canina*  
Recy 3<sup>d</sup> Rep. 135.

Want. *Loxophora pyramidalis*  
Recy 3<sup>d</sup> Rep. 72

Want. *Polyporus lanosus*

*Dyaleteia Portia*  
L.P. Am. Ent. 2-127

*Boletus concolor*  
-100-

*Aerangium boletus*  
Recy 2<sup>d</sup> Rep. 119

*Sp. Phaeo-brassic*  
Recy 2<sup>d</sup> Rep. 111

*fig. L. abraxas*  
*Abaxia*  
Entom. 2/102

Ex. 2 Feb. 1870 only.

*See Ennomis*  
*Phyllocnistis*  
#as Cos. *Stella*

Want  
*fig. Amphipora-his amara*  
L. Am. Ent. 1-225.  
*fig. L. Crougella ulmi*  
Haw.

*Veratrum album*  
White beebone

*Grophospora brachy-*

*Acadonia multifida*

*Kennerlyi*

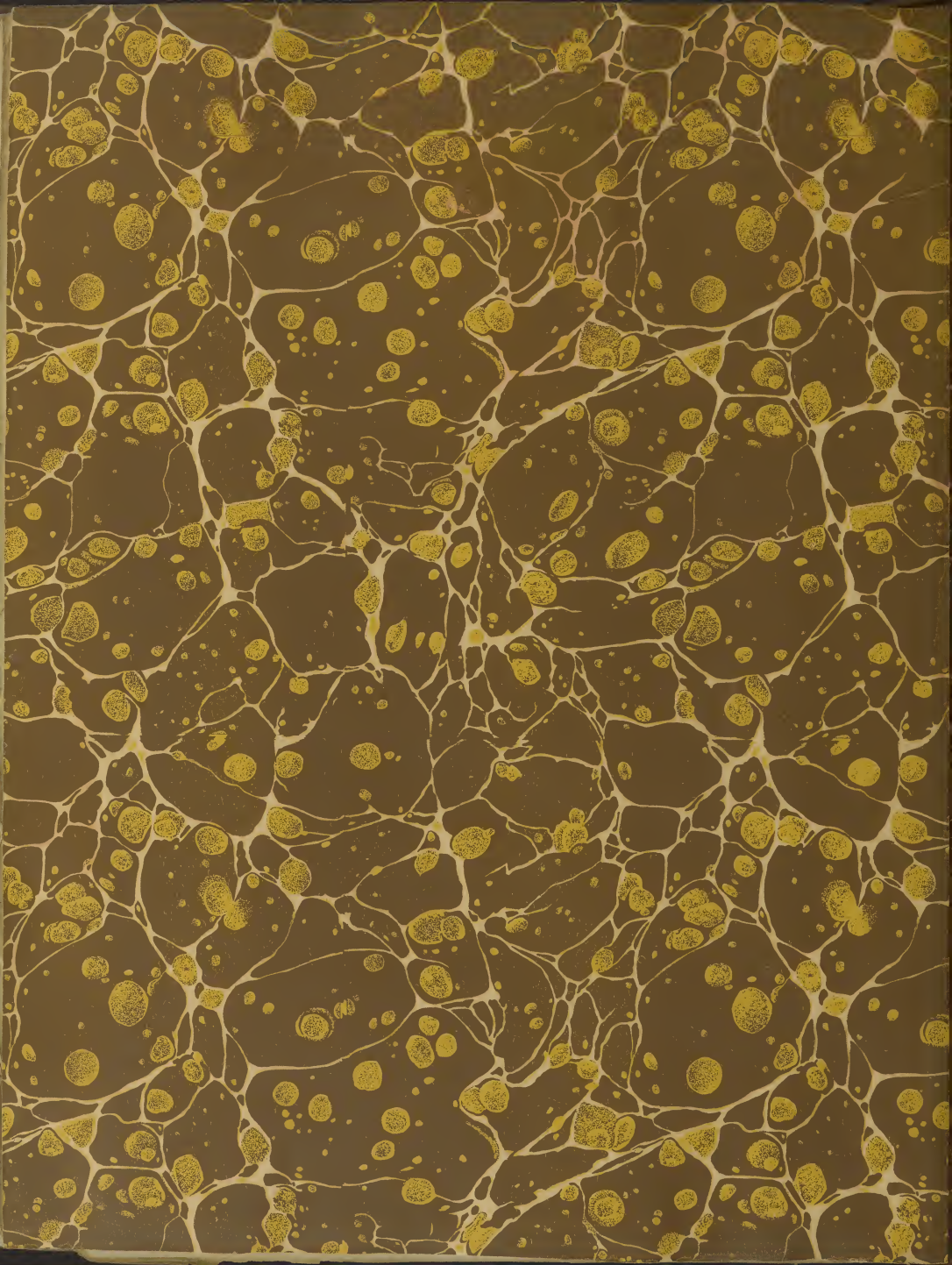
*Ammonia*

*Ammonia*

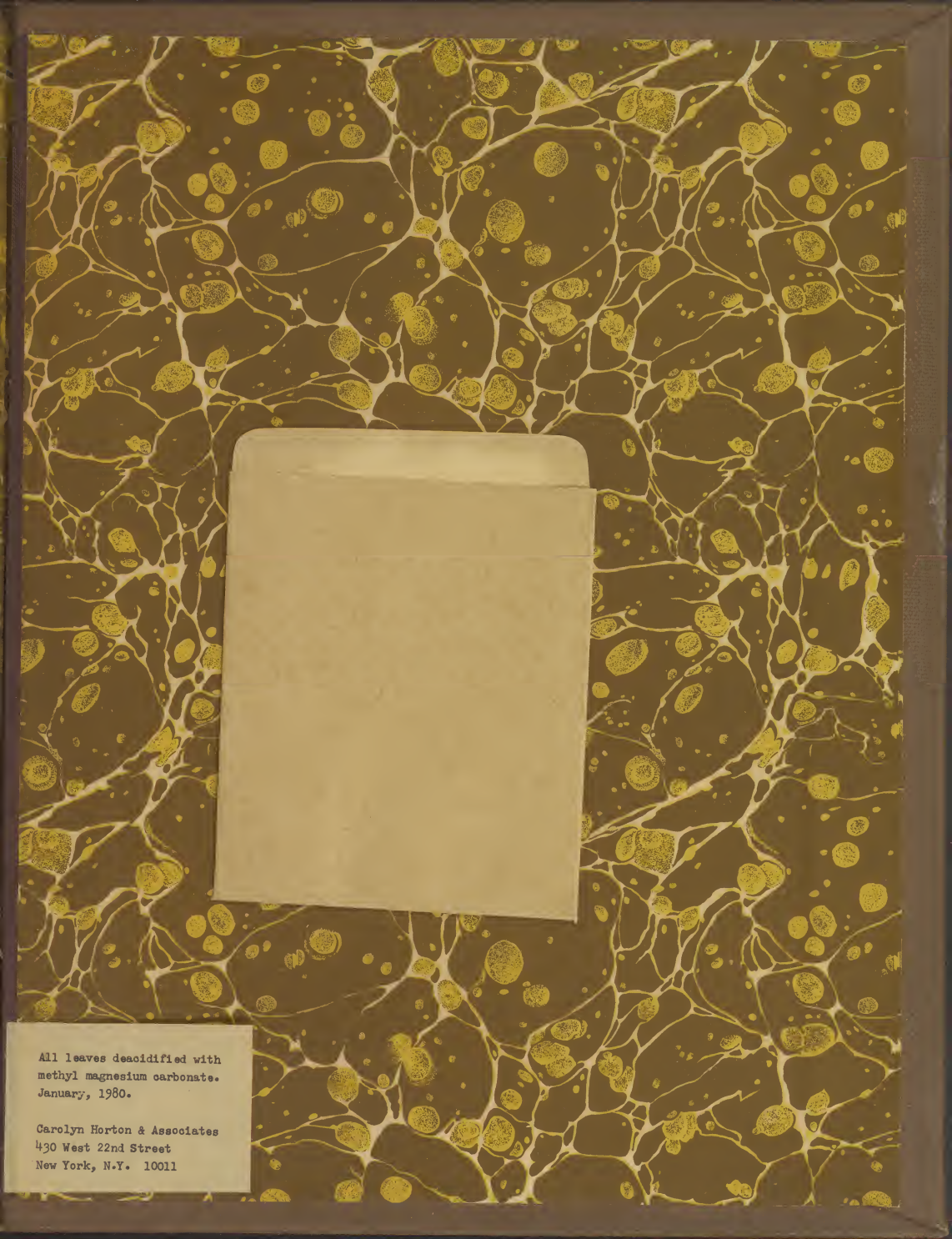
*Ammonia*

*Ammonia*









All leaves deacidified with  
methyl magnesium carbonate.  
January, 1980.

Carolyn Horton & Associates  
430 West 22nd Street  
New York, N.Y. 10011

